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REMARKS ON THE INDICATIONS FOR GASTRO-ENTEROSTOMY.*

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Before entering upon any surgical operation, the indications for such procedure should be definitely and clearly understood. The greater the operation the greater the necessity of understanding why it is to be performed. Before an operation is decided upon, we should have a fairly clear idea of what we may be called upon to do. Surgical interference with the viscera of the abdominal cavity may be imperatively called for. On the other hand, this operation has been done within the knowledge of all of us, when the necessity for so doing was not apparent, and possibly the diagnosis could have been made equally well without surgery, and therefore, without subjecting the patient to the risk of a capital operation. Laparotomy is practised so frequently that the ordinary risk in these cases is apt to be overlooked. We are too prone to assure the patient and his friends and family of the ease and immunity with which this particular surgical venture can be entered upon. We forget that, no matter how skilful the operator, there is always present not only definite risk of death, but also a risk of disability, discomfort, and what may be of more importance, certainty of loss of time with more or less mental and moral distress to the patient and relatives, not to mention the material factors of cost in money and business interests.

If possible, and it ought to be, we should before operating, obtain an accurate knowledge of the nature, extent and probable course of the diseased conditions if uninterfered with. In drawing our conclusions it should also be remembered that the autopsy room shows, according to Mr. Fenwick, that 80% of the cases of simple acute gastric ulcer heal during life. The indications which present themselves, and which in our opinion, call for surgical procedure should be well marked and indisputable in such a grave operation as the one under consideration. The indications for this operation are clear, exact, unmistakable and forceful. Only in a few cases is there debatable ground. The pathology of the various lesions in the stomach and duodenum for which we may be called upon to perform gastro-enterostomy is often confused and difficult of differential diagnosis. Symptoms of any one of these lesions resemble symptoms of the others to such a degree that it is often impossible to separate the various lesions or parts affected one from the other. This differentiation, however, is not absolutely essential for a similar operation is required in all these different conditions as a rule. At times we may even have to open the abdomen to determine the final indications, but when found they point unerringly to the necessary surgery. Indications differ, depending upon whether the case be one for emergency or for an operation of election, or for prophylactic reasons.

Operations of Emergency.—The imperative stomach operations are usually called for by a series of symptoms, as follows: severe pain, vomiting, restraint of the diaphragm, sensitiveness and tenderness over the involved point, anxious facies, fever, leucocytosis. This demand may not be for gastro-enterostomy, but that operation is frequently an adjunct to whatever primary operation is necessary. The operation of election is almost always one of the varieties of gastro-enterostomy, that is, gastro-duodenostomy or gastro-jejunostomy, anterior or posterior. The main objects to be attained by this operation are rest and drainage of the stomach, with avoidance or irritation of the lesion, whether it is in the stomach itself, in the pylorus or in the duodenum. The disease may be such that it is impossible of a cure, but by this operation we can relieve many and severe symptoms, stop for a time at least the progress of the disease and give the patient many weeks, months and even years of comfort and rest. If the disease is only a simple ulcer repeated cures have followed this operation.

In order to obtain a cure the organ must be relieved from work, it must be at rest. If the disease be a malignant one, relief can be best obtained by resting the organ. The only way to obtain rest of the stomach is to keep it as empty as possible, stopping its function. The best meth-

* Read before the City Hospital Alumni Association, Jan. 12, 1910.

od of obtaining this is by means of gastro-enterostomy. It is the operation of election to accomplish the best results. In this way we carry the contents of the stomach as quickly as possible out in the shortest way around the lesion or the obstruction, into the intestinal tract, beyond the point of the trouble, where the physiological action of the digestion may still be continued. In other words, we side-track the objectional portion of the alimentary canal. In addition this constitutes a constant drainage of the stomach at its most dependent portion.

A certain indication for this operation is stenosis of the pylorus of whatever class, whether arising from stricture of the wall of the stomach itself, cicatricial contraction, peri-gastritis, extragastric adhesions, pyloric or duodenal flexures or growths of any kind pressing upon or closing the pyloric opening. The drainage of the stomach thus produced, will cure a simple stenosis and certainly will relieve temporarily the other varieties of stenosis, while giving time for other surgical procedures to remove the exciting causes of the trouble, and thus relieve it permanently where possible.

Chronic ulcers in any part of the stomach or the duodenum, as well as malignant diseases, call imperatively for gastro-enterostomy. Duodenal cancer and cancer of the pylorus cause obstructive symptoms which may be relieved for a considerable period of time. Various distortions, contractions, spasms, and dilatation of the stomach, even if it is pronounced, call for this remedial method. Perforation is an imperative demand for operation and gastro-enterostomy may or may not be a coincident remedy with a primary operation. Pyloric retention, due to reflex spasm or when due to a short pyloro-hepatic ligament is another imperative indication. Duodenal ulcer is as amendable to this operative treatment as is gastric ulcer and the indications are equally positive. In fact, all chronic ulcers in the stomach and duodenum call for this operative interference.

Formerly a long period of time was wasted by the treatment of these lesions in the hands of the internist. Now we consider that the best treatment is by surgery. So-called callous or indurated ulcers cannot be cured by medication. The inflamed region must have the opportunity of repair. The reaction of repair is always excessive and results in the formation of extraordinary amounts of new connective tissue. The gastric secretions in these cases are intensely irritating and if allowed to accumulate in the stomach they only excite a more intense reaction producing more and more new connective tissue. The contraction which is characteristic of new connective tissue causes a large amount of puckering of the stomach wall itself. Evidences of this are seen in all autopsies of old cases of ulceration. The vascular supply of this portion is cut off exactly as happens in old indurated ulcers of the leg, thus the ulcer perpetuates itself; the more it is irritated by the gastric secretions and the constant churning of food over this lesion, the greater the ulceration, the greater the contraction, and the greater the amount of scar tissue which is formed in the neighborhood. Sometimes the scar tissue formed by a slowly penetrating, simple ulcer will be of astounding size, from that of a small peanut up to that of a large orange. One can at once appreciate the rôle of such scar tissue in perpetuating and producing tissue denutrition and consequent ulceration.

The mechanical disposition of the contents of the stomach produced by this operation is at once seen to be of great value. By means of drainage of the irritating stomach fluids and removal of the other contents from the left hand corner of the stomach immediately into the intestinal tract great relief is afforded to the ulcerated surfaces further along in the stomach and in the duodenum. Moreover, gastro-enterostomy relieves this portion of the alimentary tract from the exercise of its function. An inflamed or diseased organ is best treated by being put at rest and as much as possible relieved of its functional activity. The operative procedure under consideration does this to a much greater extent than could be accomplished by any medicinal remedy, or any other means within our knowledge.

I am aware of the fact that lately, according to some recent writers, theoretically food and fluids in the stomach do not pass out readily from the stomach into the jejunum through the artificial fistula. Practically drainage takes place through this opening and certainly the food must pass through there, because in the case of obstruction of the pylorus where this operation has been performed, it is demonstrated by the presence of fecal movements, that food taken into the mouth has passed on through the intestinal tract.

The question of how long we should wait for medical treatment to demonstrate its power in the treatment of these lesions is one which it is very difficult to decide. Deductions from the

facts stated in this paper would seem to prove that after a diagnosis has been made the sooner the patient is turned over to the surgeon the better. The question of whether to operate in cases of gastric neurosis is always of considerable interest to the stomach specialists and alienists, as well as to the interne and the surgeon. The ease with which laparotomy and gastro-enterostomy can be performed and the willingness with which the patient of to-day enters upon such grave operations tend to make the medical man and the general consultant less cautious in advising this grave operation than he would be if it were attended with more immediate danger and risk to the patient. If this were not so, I do not believe so many of these cases of neurosis would come under the knife. My own rule is this, that unless there is some decided physical, chemical and bacterial evidences of disease, such cases ought not to be operated upon, and this agrees with the experience of Murphy. Of course, there are exceptions to this rule, and there are surgeons who believe that some of these cases do better following an operation. These exceptions are few, and the surgeons advocating a surgical remedy are fewer.

Following is a case in point to cover some of the statements made above:

G. S. E., aged 49, a literary man, came to me in August, 1908. He had been suffering for nearly ten years with attacks of acute pain following ingestion of food and vomiting. He had weighed 180 pounds; when I saw him in August his weight was under 100. He had become a morphine fiend and has taken at times as much as 20 grains a day to relieve his pain. The pain, which was in the right epigastric region, and which had originally occurred only after taking food, was, at the time of his visit to me, almost constant. Vomiting followed the taking of small quantities of food or fluid and was almost constant. Recently the pain had become so severe after every attempt at nourishment that he had to resort to washing out his stomach for relief. He had become expert at this and carried a tube around with him for use at any moment. His stomach was enormously dilated and could be mapped out extending almost to the pubic bone. What was thought to be a tumor was palpated extending from the border of the right costal cartilages, well down toward the umbilicus and into the right lumbar region. The diagnosis was made; of chronic ulcer of the stomach or duodenum with large cicatricial deposit; this deposit caused the obstruction at the pyloric end of the stomach. The possibility of malignant growth of the pylorus was also considered.

The patient was sent into the hospital and gastro-enterostomy was performed. The operation was a posterior one and the opening in the stomach was made as close as possible to the greater end of the fundus. In the right hypogastric region and extending in all directions below and to both sides from the pyloric end of the stomach was a large white translucent mass, certainly five inches in diameter, apparently obstructing an enormously dilated stomach. Posteriorly were found numerous nodules in the peritoneum and retroperitoneal tissues. It was thought that the mass was malignant and several small glands were removed for microscopical examination. The pathologist reported that the tissue was simply inflammatory with no evidences of neoplasm in it.

The abdomen was closed, the wound healed kindly and the patient did well and was out of bed at the end of two weeks and back at his business in two weeks more. All vomiting ceased after the anesthesia was recovered from, pain disappeared and the patient immediately began to gain in weight and presented himself to me recently with no symptoms of stomach or duodenal or alimentary obstruction, after he left the hospital, which was some time ago.

This case illustrates not only the ease and immunity with which we can enter the abdominal cavity and examine it, do things in it, and close it up again with expectation of rapid healing, but it also represents a very frequent condition of these extensive ulcerations. It shows, too, how easily one may mistake a simple benign for a malignant growth; without question this man had no malignant growth in his abdomen. It also illustrates the ease with which these patients seek morphine for relief, and the difficulty with which we are confronted in order to break up the habit. In spite of the fact that this man tells me he is not taking morphine, he still has some evidences that are very characteristic of the morphine habitué.

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CYSTOSCOPY AND URETHERAL CATHETERIZATION IN YOUNG CHILDREN.*

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Nobody could have dreamt of the great changes that the routine use of the Nitze and other cystoscopes would effect in the pathology, diagnosis and therapy of bladder and renal diseases. The changes were revolutionary indeed. Into a dark, unclear field light was literally introduced. The frequency of disease in this anatomical system became evident; the diagnosis became accurate, the treatment more effective, and the prognosis more definite. Now every adult patient has the benefit of the accumulated experience of the last decades. Up to date, however, practically no systematic attempt has been made to apply all this knowledge to the elucidation of diseases in the urinary tracts of children though occasionally a few instances of cytoscopy in children are published.

In the 1907 edition of Nitze's Work on Cytoscopy on page 163 the situation of cystoscopy in young males is described as follows: "In boys under ten years the narrowness of the urethra

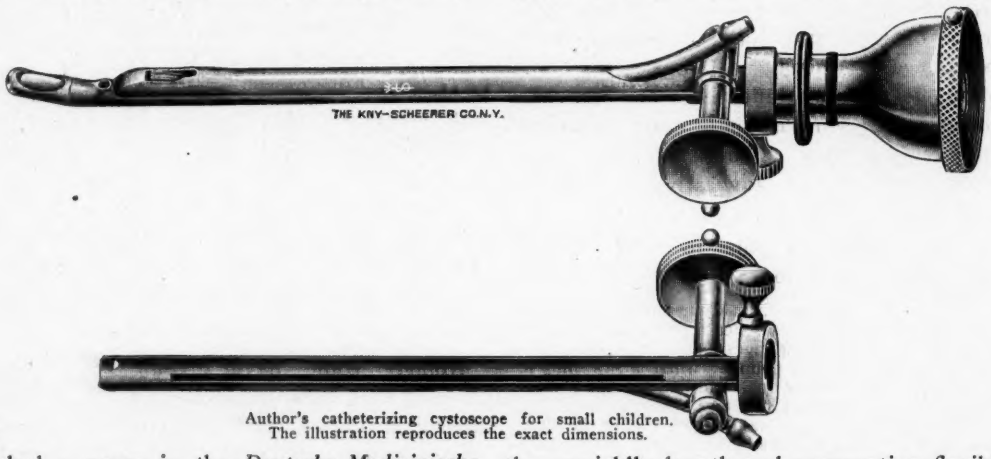
* Read before the Genito-Urinary Section of the New York Academy of Medicine, January, 1911.

prevents the use of the cystoscope, although there are cases in which one can introduce the 5 mm. children cystoscope in eight-year-old boys without traumatism."

During the past four years I have been working on this subject, perfecting and using a new very small calibered catheterizing cystoscope which I believe will overcome the main difficulties in the way of routine applicaton of cystoscopy and ureteral catheterization in young children. Post-mortem examinations as well as clinical experience have shown that children are by no means free from diseases of the kidneys and bladder, but owing to the lack of a serviceable cystoscope, diagnosis has been lamentably inaccurate.

While my work was in progress, in fact after I had used my instrument repeatedly, Portner published a paper in the *Deutsche Medizinische Wochenschrift** describing a catheterizing cystoscope** on the Nitze pattern made by the Loewenstein firm of Berlin with a report of its successful use in a number of cases. This is the only more or less complete study of the question before us that has come to my notice. In 1908, while in Vienna, the manufacturers kindly forwarded me one of these instruments for inspection and I found it in several regards unsatisfactory for this particular work.

Though made with this firm's usual care and perfect in itself, it is not suitable for work in children even though its caliber is approximately No. 17 French, as its shaft is much too long and flexible. Moreover, the shaft is too markedly flattened from side to side. The latter are more objectionable features than the size (No. 17), as the urethra of many male children of one to seven years of age, according to Alapy and Keegan, will admit a stone crusher of good caliber,* after a preliminary meatotomy. It is, however, a distinct advantage to have an instrument that can frequently if not regularly be used without meatotomy. The two models that I have made through the Kny-Scheerer firm (Reiniger, Gebbert & Schall) of New York, are Nos. 15 and 18 French, respectively. The one is much smaller, the other is about the size and much more rounded than the Loewenstein instrument which, as stated, is too ovoid in shape. Realizing that the urethra in new-born boys is between 6-7 cm. in length, in five-year-old boys 8-10 cm., at puberty 10-12 cm.,** I ordered the shaft of my cystoscope to fit these dimensions. This avoids the unwieldly length and aggravating flexibility of the foreign (Loewenstein) instrument.



Author's catheterizing cystoscope for small children. The illustration reproduces the exact dimensions.

My catheterizing cystoscopes measure 15 and 18 millimeters in circumference respectively. Their shafts up to the beginning of the catheter tunnel are 9 1/2 cm. and 12 cm. in length respectively. The smaller instrument is particularly useful in small boys. Wherever conditions permit the use of the larger instrument, as in most young girls, it should be used, as it is easier to interpret the findings by virtue of the larger field. In some cases with abnormally wide urethra even the adult cystoscopes may be employed. Each instrument is so constructed that the single catheter tunnel can be readily detached and reapplied as desired, making thus an examining*** and in catheterizing cystoscope in one. This is

* 1908 (No. 43).

** He also reported an examining cystoscope. This instrument is practically, as he admits, a copy of the original examining cystoscope made by Reiniger-Gebbert & Schall for oral cases as well as for my work.

* Nitze—Lehrbuch der Kystoskopie, page 97, 1907.

** Nitze—Ibidem.

***The examining instruments are approximately Nos. 10½ and 12½ F. in caliber.

a distinct economic advantage. The optical arrangement is practically that of the Nitze. The Albarran finger for guiding the catheter is in most respects the typical arrangement, except that it slides in and out of the tunnel as it is raised. This was so constructed in order to save space and reduce the caliber of the whole instrument. The cross section of the cystoscope is practically circular and with the catheterizing tunnel attached it becomes ovoid. The whole instrument is solid and firm. The shaft is not flexible.

Both cystoscope admit a small catheter, 4-5 French. If both ureters have to be catheterized specimens can be taken from one ureter after the other or use may be made of two long whalebone bougies which have been made for me by Stohlmann, Pfarre & Co. of New York. These are passed into the ureters and left in place while the cystoscope is withdrawn. Then over these, open end ureteral catheters, that glide readily over the bougies (Nos. 5-6), are threaded and introduced into the ureters. As yet I have had only one occasion to employ this technic in children after I had tested it in adults. It may lead to slight traumatism at the meatus of the ureter. At times there seems to be some difficulty in obtaining specimens through the very small catheters. The explanation for this is as yet not evident to me.

The optical apparatus is very clear and the pictures, though small, are very accurate so that with a little experience one can do work which is comparable with that done in adults. I have employed these cystoscopes more than a dozen times and now that I deem them perfected instruments I do not hesitate to lay them before the medical public, with the hope that they will prove very serviceable in the hands of many with resultant benefit to numerous little patients whose condition with the older methods could not be accurately determined.

As far as the technic is concerned it is much the same as in adults, except that anesthesia must be used more frequently, especially in boys. Another difference is in the fact that the infantile bladder is situated more in the abdomen than in the pelvis and this allows the trigone to be pushed forward necessitating marked depressing of the ocular end of the cystoscope to get a good view. It will be found to be a distinct advantage to employ a deep injection of 10 c.cm. of a ½% sterile indigo carmine solution to establish both the landmarks of the ureters and the activity of the two kidneys. I have used between two and three ounces of fluid in the bladder and found the dilatation very adequate. Another point to bear in mind is that the patient's rectum should be thoroughly emptied for obvious reasons.

The youngest patient cystoscoped by me was a little girl of fourteen months and the picture of traumatic ulcers and cystitis following the use of a stone searcher were readily seen. The youngest male child that I have cystoscoped was five years old. The youngest patient whose ureters I have catheterized was a girl of five years. This was done without anesthesia. The youngest boy was ten years old.

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INJURIES TO THE KIDNEYS, WITH END RESULTS.*

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Injuries to the kidney are most frequently the result of a direct force, either a blow, a fall or a crushing accident. Numerous cases, however, have been seen which were the result of muscular force alone.

Küster in a series of experiments showed that it was by no means easy to cause a laceration of the kidney unless the organ itself were filled with fluid. If a kidney drained of all of the contained fluids was dropped from a height to the floor, no laceration took place. When, however, Küster injected the bloodvessels, tied them and filled the pelvis with fluid, a kidney dropped from the same height would be badly lacerated.

As to the mechanism of the laceration within the body, it is believed that usually it is brought about by the kidney being forcibly driven against the vertebral column, or perforated by a rib, or crushed between two solid objects. Gunshot and stab wounds of the kidney are occasionally seen and need no explanation.

All degrees of injury occur, varying from simple contusion and minor lacerations of the parenchyma to complete pulpification of the organ.

It is interesting to note that ruptures of the kidney may take place from muscular effort alone. Watson reports a case in which a woman in reaching up and drawing down the upper sash of a window was seized by a severe pain in the right kidney. She showed signs of severe shock and soon hematuria appeared. The symptoms continued and then

* Read at the 19th Annual Meeting of the New York and New England Association of Railway Surgeons.

was added during the following four weeks the signs of infection of the kidney. Nephrectomy was done and a laceration extending from the cortex nearly to the renal pelvis was found. Numerous other causes have been reported. Kellerman records rupture in cases in which the patient was either lifting a heavy weight or suddenly bent forward or backward.

In the first ten years of the service of Dr. Lewis S. Pilcher and Dr. George R. Fowler at the Seney Hospital in Brooklyn, there were twenty-three cases of traumatic injury of the abdominal viscera which came to autopsy. In this series there were ten injuries due to railway accidents, five injuries to persons run over by wagons, and eight due to falls, kicks and blows. This series represents only the most serious class of cases, all of whom died within a few hours after admission to the hospital.

In the twenty-three cases there were thirty ruptures of viscera, of which nine occurred in the liver, five in the kidney, five in the spleen and seven in the intestine. This shows a percentage of seventeen occurring in the kidney. Four were of the left kidney, one in the right, and two of both organs. In three of the cases there was also a rupture of the spleen, and in one case an extensive rupture of the liver. The autopsy reports by Dr. William N. Belcher showed that in the first case the upper end of the left kidney presented several stellate lacerations occupying nearly one-half of the entire surface; the right kidney showed hemorrhage into the pelvis of the organ. In the second case the left kidney was the seat of radiating pulpefying lacerations, the pelvis of the organ being full of blood; the right kidney was likewise the seat of a small laceration at the hilum, the pelvis of the organ being full of blood. In the third case the left kidney was ruptured immediately cephalad of the point of exit in the ureter, the right kidney being normal. In the fourth case the left kidney presented three medium-sized lacerations on its superior surface, the pelvis of the organ being generally lacerated, the lacerations of the kidney proper, however, being superficial and not extending into the parenchyma of the organ; the right kidney was normal. In the fifth and last case the left kidney was normal, while the right organ was entirely surrounded by and imbedded in an extensive area of dark clotted blood, the pelvis containing considerable clotted blood. In all of these lacerations there was but one in which there was marked destruction of the kidney, the remaining cases showing comparatively superficial lacerations, the deepest of these being about a millimeter.

The majority of these ruptures of the abdominal viscera were caused by the application of most pronounced external violence, there being many caused by railway accidents. In one case there was contusion of the kidney without rupture, and in one case a perinephric hemorrhage without rupture of the kidney, but with extensive lumbar ecchymosis.

Aside from these cases several have come under our care that illustrate still different degrees of injury to the kidney.

Case I. *Complete Laceration. Operative Recovery.* A man 25 years of age, carpenter, fell from a scaffold and struck on his right side on a projecting piece of board. He was admitted to our service at the German Hospital, Brooklyn, in a state of shock, but there were no external signs of injury on the abdomen or back. The distance he fell was about twenty feet. His only symptoms were excruciating pain in the right lumbar region and a rapidly increasing pulse rate. A catheter was passed and showed the presence of large quantities of blood in the bladder. His symptoms of shock and hemorrhage increased and within two hours an operation was done by Dr. Warbasse, exposing the region of the right kidney. The organ was found surrounded by a hematoma, and as soon as the kidney was disturbed a large clot of blood was liberated from near the pelvis, and there was an enormous gush of blood. The vessels were secured, the kidney was removed and there were found to be two tears, one practically dividing the kidney into halves, and the second a deep laceration running off at an angle from the first, starting at the edge of the pelvis. The renal vein had been torn. After removal of the kidney the patient made a uneventful recovery.

Case II. *Rupture of Kidney from Kick of Horse.* A boy sixteen years of age was brought to the German Hospital with the statement that he had just been kicked in the flank by a horse. He was in a condition of marked shock, and after his entrance to the hospital the catheter removed bloody urine from his bladder. Within a short time thereafter Dr. Pilcher saw him, at which time he had rallied somewhat from his shock, but there were fullness, tenderness and ecchymosis in the region of the kidney. All the conditions pointed to a serious contusion of the kidney.

The usual lumbar incision for exposing the kidney was made. After cutting through the superficial layers and coming down to the perirenal region, an extensive hematoma was revealed and lying loose within the hematoma a fleshy mass, which was identified as the lower portion of the kidney completely torn off. Upon the removal of the blood clot and sponging out the cavity which had been opened up by the manipulations, an active hemorrhage was found to be going on from the remnant of the kidney that was still attached. For the control of this bleeding it was evident that the rest of that kidney should be removed, which was done at once. The patient made an uncomplicated recovery after the nephrectomy.

Case III. *Partial Laceration—Intestinal Paresis—Death.* W. H., aged 26, was run over by a coal wagon and was admitted to our service in a condition of shock. There was tenderness over the sternum, the abdomen; and across the lumbar spine. The abdomen was not rigid and it presented no evidence of fluid. Urine analysis: Specific gravity 1015, acid, large amount of albumen, few pus cells and many red blood cells. After admission he had some vomiting; the abdomen was markedly distended and there was no rigidity. The bowels were moved by enema. Highest temperature 100.2°; the pulse improved in force and became less rapid. On the night of the sixth day the abdomen suddenly became distended, and the bowels could not be moved by enema; the patient became delirious. Operation eight days after injury. Median abdominal section. Bloody serum in peritoneal cavity. Intestines greatly distended. Large hematoma over left kidney. No other intraabdominal injury. Distention of gut relieved by multiple puncture and suture. Abdomen closed. A lumbar incision was made over the left kidney and a large cavity filled with blood of a urinous odor was evacuated and drained. The patient's condition became worse

during the operation. The vomiting was not relieved by the operation and he died twelve hours later.

The case represents a certain class in which no laceration of the peritoneum can be demonstrated, but in which intestinal paresis ultimately proves fatal.

Case IV. *Laceration of Liver and Kidneys.—Death.* A man was admitted to our service with a history of having fallen a distance of about forty feet. He sustained a fracture of the pelvis and there were symptoms of internal hemorrhage. An operation was done upon him under cocain, making a median abdominal incision. Free blood in the abdomen and laceration of the right kidney and liver were found. Bleeding was controlled by packing with gauze. The condition of shock was so great, that it was decided to do nothing at the primary operation other than to stop the bleeding. The patient died a few hours after operation.

In this case the associated injuries of other abdominal viscera made complete operation impossible. It was simply a question of stopping the hemorrhage.

Case V. *Recovery Without Operation—Primary Shock.* A man about 30 years of age fell from the roof of a house, sustaining a fracture of the pelvis, and was admitted to our service in a serious condition. An examination showed that there was no laceration of the bladder or urethra. He complained of pain in the region of his right kidney, and it was found that there was blood coming from the right ureter. There was considerable rigidity of the right rectus muscle, and marked tenderness in the right costo-vertebral angle. It was decided that he had a laceration of the kidney, involving the pelvis, but it was deemed best, on account of the shock, to delay any operation until later. After three hours passed, the pulse was slower and there were no symptoms of progressive hemorrhage. It was decided to suspend operation until there were active symptoms indicating the necessity for it. Two days following the injury a large area of ecchymosis appeared in the right lumbar region and spread out over the back. The lower ribs were immobilized, and the patient was kept at rest upon his back. In four days the urine was passed without any blood and the patient made an uneventful recovery.

We made a definite diagnosis of laceration of the right kidney, but at the time of admission the patient was in such a profound state of shock that any operative interference would have proved fatal. The gradual improvement of his condition, together with the diminution of blood in his urine and the absence of fever, decided us against operation.

Case VI. *Recurring Hemorrhage Due to Hot Application.* A patient who was struck by the end of a heavy rope in the left lumbar region was seen by Dr. L. W. Pearson three hours after the accident. The patient complained of a severe pain over the left kidney; the urine was negative; hot applications were made over the painful area and later blood appeared in the urine, but cleared the following morning. The pain still persisted and a hot poultice was applied to the side by a neighbor and two hours afterward the urine contained blood in abundance. The poultice was removed and after two days the urine cleared up again. He was discharged after two weeks, entirely cured.

TREATMENT.

In going over the statistics of the 562 cases collected by Watson, it is found that in the complicated cases almost all of those treated expectantly died, while 66 per cent. of those treated by operation recovered. Of all the cases hemorrhage was given as the cause of death in 80, suppuration in 41, anuria in 34, and shock in 24.

Treated Expectantly:

Uncomplicated, mortality 29.0 per cent.

Complicated, mortality 91.0 per cent.

Treated Operatively:

Uncomplicated, mortality 18.3 per cent.

Complicated, mortality, 44.0 per cent.

It will be seen from the statistics given above that the mortality following injuries of the kidneys is alarmingly high, also that the results following operative interference are about 50 per cent. better than in those cases treated expectantly. This includes all classes of cases.

There is reason to think, however, that the operative treatment of uncomplicated cases in the future will show a much lower death rate, provided the operation is undertaken earlier and conducted more thoroughly than has been done in the past.

A number of elements enter into the problem. In the first place, 80 of the 190 deaths occurred from hemorrhage. That this should occur in so large a number of cases is sufficient proof that operation was delayed too long. In no case of injury to the kidney or other surgical disease of the kidney has hemorrhage been the cause of death in our own experience. It should therefore be an absolute indication for operation. That is: A hemorrhage from the kidney which persists in considerable amount or is sufficient to produce systemic effects demands operative interference. If hemorrhage continues even in small amounts for more than two days, or is recurrent, or ceases suddenly, all these factors would call for explorations. If no cause be found on the surface of the kidney, the kidney should be split from pole to pole and the pelvis explored. The bleeding points may be secured and the kidney sutured with mattress sutures of catgut. It should be remembered that blood does not appear in any amount in the urine unless the laceration extends into the calices or pelvis of the kidney. Therefore, if a perirenal hematoma is found the kidney should be thoroughly explored before reposition of the organ.

In those cases in which a section of the kidney has been torn away, it is not always necessary to remove all of the organ unless the renal vessels have been injured. When the renal vessels have been injured or when the kidney has been extensively injured, removal of the entire mass is indicated. Injury of both kidneys would contraindicate nephrectomy. The presence of free blood in the peritoneal cavity complicating renal injury calls for abdominal section, and it will often be found that there are associated injuries of the peritoneum, mesentery, liver or spleen.

Death from suppuration following injuries to the kidney occurred in 41 of the 190 fatal cases. Perinephritic abscess and pyelonephritis occurred in the majority of these, in a few purulent peritonitis. Perinephritic abscess calls for incision and drainage, pyelonephritis for nephrectomy, and peritonitis for abdominal section. All cases in which the kidney tissue itself is infected should not be temporized with, but immediate nephrectomy should be done. If the amount of hemorrhage does not call for exploratory incision we have no way of providing against infection, but when definite septic symptoms appear active means should be adopted.

Anuria may be due either to reflex nervous disturbances or to blocking of the pelvis and ureter by blood clots. In either case operation may relieve the condition.

CONCLUSIONS.

1. The expectant treatment is indicated in cases of slight injury to the kidney in which there is only moderate or transitory hemorrhage of short duration.

2. Operation is contraindicated where both kidneys are extensively injured.

Operation is strongly advised where there is progressive, recurrent or persistent hemorrhage; also when infection has taken place.

BONE TUBERCULOSIS

Involvement of large joints in the adult is comparatively rare, the smaller joints being more often affected. In children the reverse is the rule. The tubercle bacilli always invade the most vascular portions of the bone. The spinal column and the larger epiphyses naturally, in the child, attract the bacteria. In the adult where the growth has ceased these epiphyses are hardened and offer greater resistance to the bacilli who seek smaller and less resistance fields. These are found in the smaller joints, where they lodge and begin their destructive work. These smaller joints are more easily accessible and amenable to surgical treatment. If the focus appears in the joint radical treatment is indicated more urgently than if it is found near a joint. A focus, no matter how small, does not in the adult exhibit that tendency to spontaneous arrest it does in the child. In the child there is a general systemic resistance, in the adult merely a local walling off produced by a proliferation of endosteal cells around the periphery of the advancing focus which have become organized into a fibrinous envelope.—ALEXANDER EARLE HORWITZ in the *St. Louis Medical Review.*

A CASE OF CYLINDROMA: WITH REMARKS ON THE REMOVAL OF ORBITAL TUMORS.*

J. HERBERT CLAIBORNE, M.D., and E. L. OATMAN, M.D.,

NEW YORK CITY.

On February 10, 1910, Mrs. B. O. presented herself at Cornell Clinic. She gave the following history: Age 46; six children, four living and two dead. One child died of enlargement of the heart at eight years; the other, subsequent to a fall, from a condition not well described. Husband well. One miscarriage at the age of 39, at the third month. Mother and father both died of heart trouble; had a brother and sister, both of whom are living.

Previous History. No sickness in her life except nineteen years ago after the birth of one of her children she had a sore knee, which the doctor said was erysipelas, but from her statements it would seem there was some kind of swelling on her knee which discharged for several months and then healed. She has had headaches all her life. Two years ago she noticed that her left eye was getting lower than the right. At the same time her headaches became worse.

Status praesens: Badly nourished woman, pale, intellectual perceptions dull. Hand grip equal on both sides and strong. No difference in sensations on either side—face or limbs. Gait is good; no Romberg phenomenon; knee jerks on both sides intensely exaggerated. No Babinski sign; tongue well projected. Arteries soft; heart sounds normal.

Condition of Eyes. Eyes not on the same plane. Left eye displaced downward, about 13 mm. lower than the right. Excursions of left eyeball normal except upward, which was considerably modified. There is marked ptosis, and eye is divergent. The media are clear, and there is no fundus change, unless possibly a slight blurring of the disc, which is ill-defined. The field is normal; no scotomata; no diplopia; slight anesthesia of cornea. The right visions equals 20/30 with plus 1 d, axis 75; left eye 20/200, no improvement. Pupillary reflexes: left eye; direct and accommodative, fair, consensual about normal; left pupil same size as right; both moderately small.

The right eye: direct and accommodative normal; consensual, considerably modified, as is to be expected.

Underneath the left orbital ridge a tumor can be felt, but not seen. The tumor is about the size, feel and consistency of a large mulberry; it is apparently attached to some structure right under the orbital ridge; is slightly movable, and its lower border stops just short of the eyeball. Its median end starts about half way of the supraorbital ridge, and the outer end stops a little short of the external canthus. Its length is about 22 m.m. and its width 8 m.m. She has no pain in the region of the tumor, and the headache from which she suffers is not localized in this area. The eye runs tears constantly, and has been doing so for about two years, the time when she first noticed anything unusual about it.

It appears then that the headachce, the lacrimation, and the displacement of the eye all commenced about the same time, two years ago. The displacement and the lacrimation have kept pace with each other, but the headache, while intermittent, has gradually grown worse and worse. It is remarkable that the field of vision should be so good when the vision is so poor, there being no limitation of the field nor any scotomata within the field. Thirty grains of iodide of potassium, i. i. d. were given; in a week the headache disappeared. This led me to have the Wasserman, Noguchi and Cobra venom test made. All three proved negative. I advised removal of the tumor.

Operation. The eyebrow having been shaved an incision was made through the center of the eyebrow, commencing at a point which corresponds with the supraorbital notch, in a curvilinear direction, and terminated downwards toward the outer canthus. As soon as the first cut was made the tissue was picked up and slit with scissors.

* Read before the American Ophthalmological Society, Washington, D. C., May 3, 1910.

When the soft parts had been divided down to the tumor, the anterior aspect of the tumor presented in the lips of the wound. In a few moments it could be seen that the lachrymal gland lay upon the tumor and did not constitute a part of it. But the soft parts having been completely cut away throughout the length of the incision, the little finger of the left hand was inserted and thrust backward between the ball and the roof of the orbit in order to determine the character and extent of the tumor. This, of course, forced the eyeball down strongly and the tumor was found at its posterior tip fitting tightly in the apex of the orbit. It was apparently immovable upwards and slightly movable downwards at its tip.

By introducing a pair of enucleation scissors alongside of the little finger, the soft parts were divided toward the apex by alternately retracting and opening the scissors in the manner suggested by my assistant, Dr. Eisenberg. In a few moments the tumor became more easily movable, and then it was found that the little finger could be slipped between its posterior tip and the upper wall of the orbit until it met an obstruction forward. It was then found that the tumor was growing from the under surface of the orbital roof. By working from this point with scissors and knife the tumor was dissected from the under surface of the orbit and finally made to lie loose in the orbital cavity. I was able to feel the rough surface of an area about the size of the nail of my middle finger, from which the tumor had evidently grown. When it had been completely loosened above, the little finger was again introduced at one side of the wound and slipped downwards and inward between the inner wall of the orbit, though it seemed to be densely attached to the soft parts, and I thought at first, to the eyeball itself.

By introducing the enucleation scissors again and working in the manner before described I was able to loosen the tumor still more. A pair of artery forceps was now thrust down between the tumor and the orbital wall, and what appeared to be another root was grasped. By pulling the artery forceps upward the tumor was made to bulge toward the outer side of the wound. Hugging the posterior surface of the eyeball very carefully and inclining the scissors upward toward the tumor, being guided by my finger, I was able to detach the mass which was grasped by the artery forceps, and with one cut the whole structure was loosened. It was only necessary now to define the tumor and cut away the remaining attachments.

The time occupied in removing the entire mass was twenty minutes. The little finger was now pushed again into the orbit in order to assure myself that there was nothing remaining. I was able to thrust my finger back to the apex, feel the optic nerve, and again felt the roof of the orbit to which the tumor had been attached.

As the tumor came away it presented the appearance of a hard glazed mass, apparently bound in a tight capsule and somewhat constricted irregularly. On the anterior aspect of the tumor there was a mass which appeared to me to be partly connective tissue, partly fat, and partly lachrymal gland. A piece of fat protruding from the orbit into the wound was cut away.

The wound was thoroughly cleansed with 1-3,000 bichloride, and closed with interrupted sutures. A small opening at the outer and inferior point for drainage. It healed by first intention in 24 hours. There was ptosis but no swelling of the lid.

In 54 hours it was observed that the right eyelid of the patient had swelled, likewise the soft parts of the bridge of the nose. The bandage was removed and the left lid was found to be intensely swollen, more or less edematous and ecchymotic. The wound was clean and the eye completely shut. This condition, it is well known, happens within 24 hours to three days after most operations upon the orbit. It produced no alarm as there were no evidences whatever of suppuration. Temperature normal.

The patient was dismissed from the hospital at the end of ten days, with the wound neatly healed but with the left lid in a condition of complete ptosis. There was anesthesia of outer side of the brow extending up into the hair the anatomical limitation of the temporal branches of the supraorbital nerve.

The skin about the inner side of the suprorbital notch was sensitive. By starting the incision just a little to the outer side of the supraorbital notch and by dissecting the soft parts slowly with the scissors instead of cutting them with a knife, I was able to avoid not only the supraorbital artery but likewise the supraorbital nerve.

When I undertook this operation I anticipated that at least one hour would be necessary to finish it. I was perhaps more surprised than anyone else present at the short space of time necessary to remove this tumor.

The photographs here shown represent the appearance of the patient before and after the operation. At this writing the ptosis is still present, but is lifting gradually. The anesthesia of the brow is becoming less. The movements of the eyeball in all directions are perfect, whereas they were much limited upwards before the operation. The function of the eye is still 20/200, the same as before. Pupillary reactions normal.

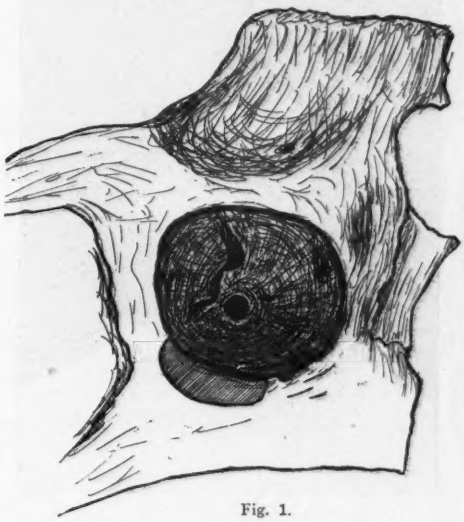

Fig. 1.

The following histological report of the tumor was made by Dr. E. L. Oatman:

"The specimen is an ovoid tumor, 28 m.m. in length and 18 m.m. in its greatest diameter. Its external surface is fibrous and very slightly nodular. The point of attachment to the orbital walls is indicated by a broad, denuded area, measuring 12x20 m.m., the cut surface is white, smooth and firm.

"*Microscopic Examination.* The unattached portion of the tumor is enclosed in a fibrous connective tissue capsule. A small section of the normal lachrymal gland is attached to the external surface of the capsule which entirely separates the gland from the tumor. At this point the capsule and gland stroma are infiltrated by an old extravasation of blood, evidently of traumatic origin. The neoplasm is an endothelioma, apparently originating in the lymph channels of the orbital periosteum. It is nearly nonvascular, only a few insignificant blood cells being demonstrable. Histologically, it is composed of epithe-

lioid cells situated in a stroma of fibrous connective tissue. In a general way, the cells are arranged in strings and columns which in some areas present a fenestrated appearance. As a rule, however, the cells which occupied the center of the columns have undergone mucoid, hyaloid or some analogous degeneration, leaving round, tubular cavities enclosed by cells, which in cross sections present a picture remarkably gland like. The cells immediately around the cavities, being relieved from pressure, appear larger than where closely packed. The tubular spaces contain cylinders of the homogeneous material produced by cellular degeneration. Hence, the name *cylindroma* has been applied to these growths. In the center of the tumor a few irregular spaces have formed containing a granular material, probably coagulated fluid. This appearance indicates commencing cystic degeneration. The stroma is undergoing a degenerative process whereby it is rarefied and converted into a myxomatoid tissue. Weigert's stain shows it to be richly supplied with elastic fibers.

Fig. 2.

"These growths are not actively malignant and when once removed do not recur. If neglected they may infiltrate and destroy the surrounding tissues and even cause death through metastases. In most cases rapid degenerative changes result in the formation of a gelatinous cyst which exhibits little or none of the original tumor structure.

"Diagnosis, cylindroma orbita (endothelioma)."

In concluding the description of this case I desire to submit a few remarks in regard to the best method of operating upon tumors of the orbit.

As a rule, we operate for these tumors through the region of the brow, more or less in the manner I have described. Incision is made by some through the brow itself or just beneath the brow. The length of the incision seems to vary at times according to the location of the tumor.

Some surgeons, however, prefer the so-called Kronlein operation for the removal of deep seated tumors, particularly those which grow from or are attached to the optic nerve. In 1886, Wagner suggested an operation which has subsequently borne the name of Kronlein. In 1887, Kronlein published a report of the removal of a dumb-bell shaped dermoid cyst of the orbit by the method suggested by Wagner, since which time that operation has been known as the Kronlein operation.

This operation was suggested by Wagner and performed by Kronlein under the assumption that by removing the outer wall of the orbit, tumors in this region may be more easily manipulated and removed.

My own experience comprises two cases: one situated six or seven millimeters back of the supra-orbital region and to the outer side; removed with considerable hemorrhage and difficulty by an incision through the brow. My other case was the one herein described.

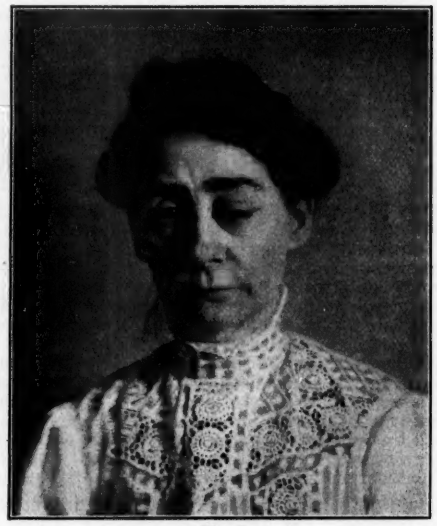

Fig. 3.

I have never done the Kronlein operation, but from my experience I am inclined to think it is an unnecessary one. In the skull which I have in my possession, the frontal sinus extends from the median line outward 30 to 32 mm. and as it approaches its termination toward the temple, the depth of the cavity becomes narrower and narrower. Those measurements will bring the termination of the frontal sinus to a point which corresponds to four or five millimeters from the orbital notch. It would, therefore, be quite possible to remove a portion of the orbit which lies between this point and the temporal suture of the orbital wall without opening the sinus or entering the cerebral cavity. In the skull to which I have referred I have outlined with ink a semilunar area 20 millimeters in length, and about 5 to 7 in width. By cutting down upon the edge of the orbit, carefully reflecting the perios-

teum, it will be possible to remove the bone and leave the periosteum remaining by stitching the periosteal wound together. In this way the post-operative formation of bone might be achieved.

Just at the points suggested by Wagner and Kronlein for the removal of the orbital walls, the wall of the orbit inclines inward and is almost flush with the edge. Whereas, in the region I have described there is between 10 and 15 millimeters of depth from the edge of the orbit to the point where the wall passes into the roof. It is this overhanging brow rather than the outer wall of the orbit which interferes with manipulation in the depth of the orbit. I suggest therefore in substitution for the Wagner and Kronlein operation, that an elliptical piece of bone, approximately of the size mentioned, be removed subperiosteally from the region outlined. Whatever deformity might follow this operation it is quite clear to me that it could be no worse than that following the Kronlein. Moreover, the orbit is attacked at a point which lies halfway between the superior and the external rectus muscle, consequently the possibility of restriction of muscular movements afterwards is not so great as in the Kronlein procedure, which is frequently followed by restriction of the movements of the eyeball outward.

The Kronlein operation involves cutting through a very thick portion of bone below, where the orbit rises from the zygoma, likewise above it is necessary to cut through a considerable thickness of bone. It is simply impossible to return this flap and make it coapt completely with the opposing bony surfaces. This is largely the reason for the deformity which exists after the operation.

It is true that in the operation which I suggest the bone is completely sacrificed, but I believe that if the periosteum is properly reflected and sewed up that new bone will be formed.

It is well known that in all operations for orbital tumors where incision is made through or beneath the brow and the levator palpebra superius is cut, there is more or less ptosis following the procedure. The ptosis in the case which I have described was very great. Nevertheless the eyelid is lifting slowly and in time will be almost normal. This is usually the case. I believe, however, that we can improve our technic in this matter by stitching together as nearly as possible the cut ends of the levator palpebra superius by subcutaneous sutures of catgut, and I suggest that procedure in all operations in which incision is made through the brow.

Fig. 4.

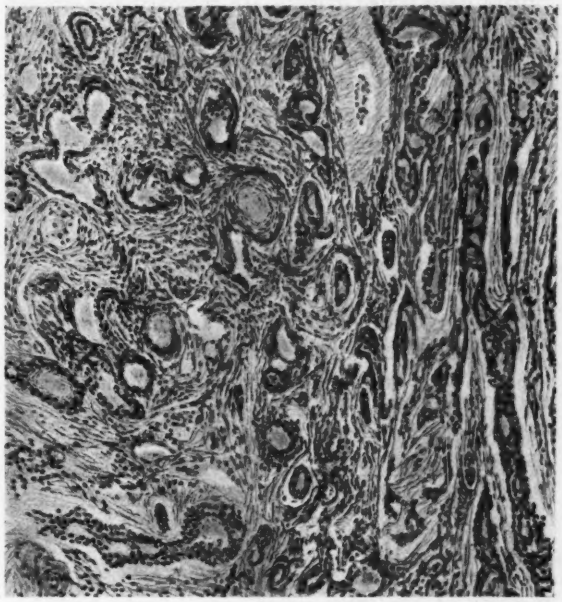

Fig. 5.

The tumor which was removed in this case was 28 mm. in length and 18 in its greatest diameter. The orbit in the skull which I have in my possession is 40 mm. long, therefore there were but 12 mm. of space unoccupied by the tumor. By following with my little finger I was able to determine the fact that the tumor grew from the roof of the orbit and commenced at a point where the vertical

wall emerges into the flat roof. That was about 10 mm. from the edge of the supraorbital ridge. Therefore, this tumor was jammed in the very apex of the orbit. When I demonstrated this case before the Section of the New York Academy of Medicine, several surgeons suggested the operation through the brow; and another one expressed the opinion that it was a typical case for the Kronlein operation.

It is clear that the Kronlein operation was unnecessary in this case, and the ease with which these deep-seated tumors are removed has led me to form the opinion which I have herein expressed.

As shown by the skiagraph, the orbit on the left side was larger than the orbit on the right; though the difference was very slight, this fact may have assisted me somewhat in removing the tumor so easily and so quickly. I believe that in the great majority of cases, if the brow incision is made and carried from the inner canthus out to the outer canthus, that most tumors, however deep seated, may be removed. If, however, any difficulty is experienced, I believe that the suggestion which I have made here in regard to removing the outer third of the supraorbital ridge in the manner which I have indicated should surely obviate the necessity for the Kronlein operation. I believe that the procedure which I have suggested should be employed if there is reason to assume that the tumor grows from the upper and outer side of the orbit or from the outer side of the optic nerve.

11 EAST 48TH STREET.

PAIN IN THE BACK.

If one goes over the history of patients suffering from Bright's disease, from stone in the kidney, or from septic infection of the kidney, it is surprising to note how few cases, if any, have pain in the back; that is to say, pain referred to the vertebral column. In most of these cases the pain is a dull ache or soreness referred to the lumbar region, and in the case of colic it is usually referred along a definite path. So, also, the number of cases of pain in the back, popularly referred to some displacement of the pelvic viscera, is far too great to have any definite scientific reason for localizing the cause in that region, and the proof of this lies in the fact that so many of the leading gynaecologists of the day are very conservative in their operating on this class of cases.—W. G. TURNER, in the *Montreal Medical Journal.*

REMARKS ON THE SURGERY OF MOLES, WARTS, NEVI AND CYSTS OF THE SKIN.

D. W. HARRINGTON, A.M., M.D.

MILWAUKEE.

There are few fields in medical and surgical practice more neglected by the regular profession than the one covered by the title of this article. We are often looking for new and distant worlds to conquer and neglecting the one at our feet. We fail to see the disagreeable objects upon our glasses they are so near our eyes; our mental vision has been so generally focused upon the larger operations in late years that we do overlook the smaller ones. This field of work has been so thoroughly neglected by surgeons that, like other neglected fields of practice, it has been taken over by "advertising specialists" who are not of the profession.

One who has cultivated his observation cannot fail to notice how numerous are moles, warts and nevi of the faces, necks, arms and hands of people who would be handsome if they did not possess these disfigurements. When one has given the attention to the subject that it deserves, one wonders that in these progressive times any individual who thinks at all of personal appearance will carry through life a disfiguring mole or wart on some prominent part of the face or neck. Yet we see them on every side as though the thought of having them removed had never entered the minds of their bearers.

I frequently ride on the car with a physician who has a large elevated mole at the angle of his nose; one would think that for the sake of his patients, if not for his own and his wife's, he would dispose of it. I recently removed sixteen elevated moles, mostly of the hairy variety, from the face and neck of an unmarried woman forty-one years of age, thus converting her into quite a handsome woman. If this had been done when she was at the age of sixteen it might have changed her whole life history and made history for others that never were. I asked her why she did not have it done before and she answered that the thought never occurred to her and that she did not know that it could be done. She submitted to the procedure as the result of a suggestion on my part while treating her for another trouble. A man from out of the city recently consulted me for arteriosclerosis. He had upon one cheek a large angry-looking elevated mole that he had carried about for fifty-six years. At my suggestion he let me remove it and when asked why he did not have it done before he said the thought never occurred to him. He went home

greatly pleased at being rid of one small burden.

The opportunity presents itself almost daily to the general practitioner to suggest some such improvement in the appearance of his patients. As I look back over my twenty-two years of practice I remember many cases in which a mere suggestion would have been sufficient to induce a patient to have some disfigurements removed; during the first ten years of my practice the idea of doing this did not even suggest itself to my mind.

Most persons, both men and women, are willing to have their natural beauty enhanced. Occasionally we meet with those, especially among the older generation, who have a superstitious fear of having such growths removed and who will say: "I wouldn't have that touched for the world." Many such fatalists seem to have an idea that such "marks" were given them with an intention and that it would be a contravention of the will of the Powers that be to interfere in such matters. If one explain that there is nothing more unreasonable in removing them than in cutting the hair that grows upon them, or pairing the nails or removing corns, these persons will usually begin to use a little reason.

I think it is the duty of the profession to urge the removal of these growths especially the colored or pigmented moles because of the real danger of their changing into malignant tumors. The frequency with which they increase in size and develop a malignant character makes them a positive danger, and when they have begun to grow it usually means that they have already changed into malignant growths.

W. W. Keen has found that growths developing from warts proper are generally epithelial cancers and Mr. Eve (*London Hosp. Reports*) found that twenty-six out of thirty-three colored moles that underwent malignant change became melanotic sarcomata which are even more malignant than cancer.

Wilson and Kaltyer claim that 96 per cent. of melanotic sarcomata have their origin in pigmented moles and nevi which seem sufficient reason for the early removal of all such "marks."

In the case referred to above in which I removed sixteen moles, I operated about a year before for chronic appendicitis and on the same side I found an ovarian cyst as large as a cocoanut. In one case, recently operated upon, several members of the family have large hairy moles and one of those members had a fibroid tumor of the uterus. In several other cases in which I removed moles and warts and nevi operations had been done for other growths on or within the body. The question is naturally suggested whether in individuals predisposed to abnormal developments upon the skin surface of the body, there is a greater liability to abnormal growths in other tissues, and especially those originating from the same embryonal layer. I do not know whether any accurate observations have been made upon this subject. What the determining factor is when a benign mole, wart or nevus takes on a malignant change we do not know, but it is clear that any elevation above the surface of the skin is subject to many forms of irritation such as the friction of clothing, towels, rubbing in bathing, bites of insects, cuts in shaving, etc.

In the removal of such growths three objects should be kept in view, the complete removal of the tissue that might become malignant, the complete removal of the roots of the hair in hairy moles, and the least possible after-effect in the way of a scar.

It is said of certain methods that they leave no scar but I have yet to see a case in which some scar tissue cannot be detected. The claims for particular methods are usually extravagant in proportion as the methods are new and the apparatus used is expensive.

After considerable experience and observation I have come to rely chiefly upon excision. It has the special advantage of general utility among all surgeons and general practitioners who are accustomed to doing neat work.

Very small moles that are not elevated may be satisfactorily removed by the application of any efficient caustic, care being taken not to apply it too long else a small depression may be left. One never can exactly limit the destructive action of any caustic agent. Occasionally we meet an individual whose skin reacts badly to the action of any irritant. Excision, if properly done, gives quick results, leaves no depression and gives the least possible scarring.

It would seem quite unnecessary to give the technic of so slight an operation, yet my observation of the work of able surgeons and my personal experience have taught me that in this field good results depend entirely upon close attention to the minor details, and by good results I mean chiefly the absence of scarring.

After the usual surgical cleansing of the skin any local anesthetic may be used. For the injection I use the finest hypodermatic needle that I can find, one that is new, clean and sharp, for the skin of the face is very sensitive and our patients do not like to

be hurt. When the skin is completely anesthetized I hook a fine curved tenaculum into the growth to be removed, the hook extending in the line of the incision which should usually be in the direction of the natural line of the face. The object to be ex cised should be raised with the tenaculum until it becomes the apex of a cone. Then with a fine, sharp, straight bistoury I make a straight incision downward and inward to the center of the cone on one side; then a similar incision on the other side to meet the first, thus removing a wedge-shaped bit of tissue. If a hairy mole is being dealt with it is necessary to excise sufficiently deeply to remove the roots of the hair.

After the incision of the growths there is an elliptical area the edges of which are easily brought together by one or two fine hair sutures. If the growth be rather large and if it be removed from some part of the face where the skin is firm and tight as on the chin, nose, cheek or forehead, it may be necessary to split the skin for a slight distance on either side so that the superficial layer will readily side on the deeper layer, toward the middle line, thus diminishing the tension on the sutures.

Even in the case of very small growths I prefer two fine sutures so as not to leave a small space in the angle in which the superficial layers of skin are not in contact. Care must be taken not to draw the sutures too tight nor to leave them in too long else stitch marks may be left. I usually remove them on the third or fourth day, leaving them longest where the skin is firmest.

The wound is dressed with a flake of cotton in flexible colodion. The same kind of dressing is put on after the sutures are removed and is left on three or four days longer. The greatest scarring that one can have in such cases is a line the length of the incision and usually after two or three months the scar cannot be seen upon ordinary observation.

The particular feature of this procedure that I wish to emphasize is the use of the tenaculum in raising and steadying the growth and of the straight bistoury in removing it; I have seen very bungling work done in trying to grasp such a growth on firm tense skin with a pair of forceps and then remove it with a pair of dull scissors.

In the removal of small sebaceous cysts from under the skin and especially from beneath the scalp I accidently hit upon a method that has seemed very successful in several cases. Such cysts are usually adherent to the skin on their superficial side but not to the underlying tissues. There is often much difficulty in dissecting the skin off the cyst and the cyst is usually ruptured in the effort. If a straight incision is made into the cyst and a curved tenaculum hooked into the bottom of the cyst wall the sac can be drawn out through the incision as easily as the lining out of a hat. This method may have been used before but if it has I have not heard of it. The first case in which I used it was one in which an able surgeon attempted to remove a cyst of the scalp several years ago. The cyst returned in a short time. In none of the cases in which I used this method has there been a return of the cyst as far as I know.

TRAUMATIC EPILEPSY AND TRAUMATIC INSANITY.*

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NEW YORK.

TRAUMATIC EPILEPSY.

Mental shock in those predisposed to nervous disorders sometimes results in epileptic convulsions. In such cases physical injury is not a necessary cause, but as in this State no one can recover damages for mental shock alone, some form of physical injury is always discovered, and is generally present.

In what manner fright or shock causes epilepsy is not thoroughly understood. Possibly fright so changes the chemical character of the blood that it becomes poisonous to the brain cells; that fright may chemically change the various secretions of the body is well known; thus fright may make the milk poisonous, change the character of the gastric juice, change the saliva, and possibly in the same way the blood is so altered that it may exert a powerful toxic influence upon the brain cells, thus causing convulsions. Again the brain cells, as a result of the shock, may become so paralyzed that they cannot perform their metabolic functions, and they become therefore so greatly enfeebled that they can neither void the toxic influences, which are generally present in the circulation, nor perform their own nutritional changes properly. In any event there is no doubt that true epileptic seizures may follow shock or fright unattended by physical injury of any kind, but I am convinced that it rarely, if ever, does so unless the individual is congenitally endowed with a distinctly neurotic constitution.

Injury to the cranium alone, without injury to the brain or its membranes, is not in itself a competent

* Read at the 19th Annual Meeting of the New York and New England Association of Railway Surgeons.

cause for the development of epilepsy; but many injuries to the membranes and the brain may be either caused directly from the same violence that injures the cranium, or are secondary to the cranial injury itself. The injuries to the membranes which may cause epilepsy are adhesions, pachymeningitis, hematomata and tumors.

Adhesions between the dura and the skull, and between the dura and the membranes beneath are frequently a result of blows upon the head, often without any injury to the cranium. The consequent irritation to the cortex causes convulsions, which may be either of the Jacksonian or the general type, according to the location of the adhesions.

Pachymeningitis, which is generally accompanied by some hemorrhage, is invariably followed by a thickening of the membrane, and by adhesions, and is a competent cause for the production of convulsions.

Hematomata usually occur at the site of the injury, but infrequently are found at points diametrically opposite to where the blow has been received. Hemorrhages over the motor cortex are generally followed by convulsions of the Jacksonian type; in other parts of the brain the convulsions are general if they occur at all.

Tumors may develop in any part of the membrane as the result of injury to the head. The injuries to the brain that may arise from traumatism and result in convulsions are simple degeneration of the cortical cells, hemorrhage into the brain substance, which may be either gross or minute, and the development of tumors, cysts and abscesses.

Degeneration of the cortical cells generally occurs immediately beneath the place where the blow was received. In one case that came under my observation, a boy, who had been struck upon the top of the head in a railroad accident, developed epilepsy. An operation performed at the point of injury showed quite extensive adhesions between the dura and the skull and some thickening of the dura. A piece of the cortex was excised and sent to the laboratory for examination. A quite extensive degeneration of the cortical cells was found. It is believed that this degeneration results from the direct shock of the injury, paralyzing the activity of the cells so that their nutrition is either perverted or arrested, and hence degeneration follows.

Hemorrhages may occur in any part of the brain from injury to the head, particularly in those whose bloodvessels are more or less degenerated. The extravasation may be either extensive, or there may be a great many minute hemorrhages. In either case convulsions may become established.

Tumors, cysts and abscesses may develop in any part of the brain as the result of traumatism, and they frequently give rise to epileptic convulsions.

Convulsions do not always immediately follow an injury to the head, but sometimes do. This is particularly so in the convulsions which follow from fright and from hemorrhage, whether the latter be meningeal or cerebral. Late convulsions follow the development of meningitis, adhesions, simple degeneration of the cortex and the development of tumors, cysts and abscesses.

It is not always an easy matter to differentiate epilepsy from hysteria. It is well known that hysterial convulsions may develop as the result of a traumatism, and unless a careful study of the symptoms is made, one is apt to be deceived. The textbooks generally describe in parallel columns the symptoms differentiating epilepsy from hysteria, but there are many cases of epilepsy that so closely simulate hysteria, and so many cases of hysteria that closely resemble epilepsy, that it is by no means an easy matter to immediately differentiate one from the other.

A form of epilepsy which sometimes develops from injury to the head is that of psychic epilepsy. In this form the individual unconsciously, automatically, and with apparent purpose, performs a number of coordinate acts, and is yet unconscious of the entire proceedings. A young man, who consulted me after having received an injury to the head in a railroad collision, told me that he, having been sent to a house to repair a lock, suddenly ceased working, went to the piano, opened it, sat down before it, and began to bang on the keys and shout. The owner of the house, not appreciating his musical efforts, threw him out. He then walked about a mile from the house before he came to himself. He did not know any of the features of the episode, and had been unconscious during the entire attack. Frequently these psychic attacks follow or precede general convulsions, but sometimes they take the place of them altogether.

The prognosis of traumatic epilepsy is not good. Generally the injuries are of an organic nature which cannot be cured, and operative procedures are in the main only palliative, or at the best secure but temporary relief. The best results are obtained in those cases which are due to adhesions and to hemorrhage between the dura and the brain, and to simple irritation of the brain cortex from depres-

sions of the skull. These are all conditions capable of being successfully treated, but other causes are so destructive that a cure is seldom if ever accomplished.

The treatment of traumatic epilepsy lies with the surgeon, and I urge that surgical interference should be resorted to as soon as possible after the occurrence of the first fit. There is no use in waiting to see what nature is going to do. The reparatory processes of nature are destructive to the nervous system, and delay in surgical treatment only minimizes the individual's chance of recovery. Medicinal treatment is only a waste of time, but medicinal treatment should always be instituted and continued for a long time after the surgeon has given all the relief possible.

Taken at its best, traumatic epilepsy, from whatever cause, is a serious condition, the number of cases recovering being comparatively few.

TRAUMATIC INSANITY.

Severe trauma to the head induces a lessened power of resistance of the brain to ordinary morbiginous agents. The brain cells lose their phagocytic or biometabolic power over the toxic substances or the microorganisms that are in the circulation, especially if there is any hereditary or acquired predisposition to disease, such as is caused by alcohol, syphilis, sexual excesses, worry and overwork.

Again, a blow upon the head may so paralyze the activity of the cortical cells that they become unable to perform their metabolic functions, and as a result perversions of nutrition follow, often with distinct degenerative changes in the cell bodies, which though generally transient, may become permanent and progressive, leading to chronic insanity. Particularly is this the case in those who would have developed insanity anyway in the course of time. Here the trauma acts as an etiological factor, merely hastening the development of a morbid process already begun but perhaps up to that time unsuspected.

Head injuries in infants may be followed by arrest of development, varying from a very slight degree to complete inbecility. Mickel says, "In older children, at about the adolescent period, head trauma may be followed not only by arrest of development, but also by maniacal attacks, morbid impulses, and monomania. The character may be utterly perverted and the patient become a moral lunatic."

In the adult, the insanity developed after trauma to the head may be due to functional derangement, in which case recovery generally follows, or organic changes in the brain elements supervene, leading to permanent insanity. The functional mental disorders are:

1. Acute hallucinatory insanity.
2. Stuporous insanity.
3. Melancholia.

I pass over the condition of shock or coma which may immediately follow trauma.

Acute hallucinatory insanity is generally preceded by a short period of fairly normal consciousness. This is soon followed, however, by the development of delirium, mild at first, but increasing in intensity as the disease advances. The dreams during sleep are fantastic and frightful. The patient is disoriented. There are dissociation of ideas, extreme motor agitation, and a tendency to periods of great mental excitement, depending in a great measure upon the flight of hallucination. There are also periods of great physical exhaustion, and sometimes stupor, in one of which the patient may die. These conditions are generally maintained with greater or less intensity for five or six weeks, or even for a much longer time, and then the symptoms gradually subside. For a long time thereafter the patient's thoughts and ideas form with slowness and difficulty. There is incapacity and intolerance of mental effort, and generally complete amnesia of the whole period of illness. The patient in time generally recovers, but sometimes there is a permanent loss of former mental vigor.

In *stuporous insanity* the patient instead of merging from coma passes into a state of stupor, varying in degree from day to day. In its lighter phases it may be observed that there is slowness of thought, weakness and instability of memory, and confusion, irritability of temper, and a tendency to great excitability. In the deeper phases stupor predominates. There are neither deliria nor hallucinations. In three or four weeks the stupor subsides, convalescence becomes established, and recovery follows.

When *melancholia* develops from head injuries, and it is an infrequent sequel, it generally assumes the agitated form. The patient walks up and down, wringing his hands, groaning and lamenting his dreadful misfortunes. The delusions of having committed the unpardonable sin, and of impending poverty, with other delusions common to melancholia, are generally pronounced. The clinical picture differs in no respect from that of melancholia not due to traumatism. This form of insanity may

last several months before recovery takes place. A few cases have been reported in which the melancholia terminated in irrecoverable dementia.

The only permanent insanity directly due to head trauma is *dementia*. Sometimes, particularly in young subjects, and generally after a lapse of weeks and months after the injury, progressive mental deterioration follows. Sometimes its development is rapid, but generally it is slow. It may be arrested spontaneously, after reaching an uncertain state, leaving the patient more or less feeble-minded, or it may progress to a condition of complete mental annihilation.

Dementia precox, paranoia, and general paralysis have been known to develop after injury to the head, but they cannot in any case be attributed to the injury alone. It is well known that dementia precox and paranoia are developmental diseases, and the cause of general paralysis is equally well known. If these diseases develop after an injury it can only be said that the injury was a contributory factor, and in no case a direct cause.

TRAUMATIC AND ACCIDENTAL HERNIAE, AS THEY AFFECT EMPLOYEE AND EMPLOYER.*

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Much has been written upon this subject. It has been dicussed frequently by the ablest surgeons of this country and abroad. Dr. W. B. Coley, of this city, presented a masterly paper to this Society upon this subject in 1907. Much of extreme value has come from his pen since.

I have nothing new or startling to add to the literature upon this subject. My remarks will be confined largely to hernia of the inguinal region. Hernia affects the employee's health, comfort and working capacity. It affects employer medico-legally, and in securing sound and safe help.

Traumatic and accidental herniae may be considered under the following heads:

1. True traumatic hernia.
2. Accidental hernia with trauma.
3. Accidental hernia without trauma.

True traumatic hernia is always associated with an accident, producing trauma or injury, but without a predisposing cause. It is very rare and serious.

Accidental hernia with trauma is associated with an accident; an injury is evident, and there has existed a predisposing cause. It is not rare and not serious if not neglected.

Accidental hernia, without trauma, is associated with an accident. A predisposing cause existed, but unaccompanied by trauma or injury. It is common and only serious when neglected.

True traumatic hernia, Doepner says, is one in which "all the parts of the hernia, the orifice of the sac, the sac itself and contents of the latter, are the direct result of external violence. In the accidental hernia, on the contrary, the sac and its orifice being already in existence, the entrance of intestine is brought about by the action of some force."

Bilfinger says: "The hernia must be completely developed immediately after, or at least within a very few days after, the receipt of the injury. There must have been no predisposition to hernia, no matter of what nature; thus, no latent hernia, no empty hernial sac."

Graser says (Handbook of Practical Surgery): "It is the consensus of opinion among those who have given the subject most careful attention, that the sudden complete development of a hernia is a very rare occurrence—so rare that it is hardly of any significance from a practical standpoint."

Manley says (quoting from Coley): "After having examined and operated on nearly every species of hernial disease, I am able to say, without any qualification whatever, that hernia is never attributable to traumatism alone, unless the violence be applied by some hard, heavy, sharp-pointed instrument or substance which either punctures or rends the abdominal wall; and that, when a hernia appears, after the application of ordinary force, it can always be demonstrated that it had previously existed, the accident or injury being an incident only in its evolution."

Coley defines traumatic hernia as "a hernia resulting from the direct application of force to that portion of the abdominal wall at which the hernia appears, or a hernia resulting from the indirect application of force, causing greatly increased intra-abdominal pressure."

TRUE TRAUMATIC HERNIA,

Is a suddenly forced opening through an unbroken normal wall from without, or from within, permitting the protrusion or escape of viscera.

True traumatic hernia may be caused by injuries received in the following manner:

* Read at the 19th Annual Meeting of the New York and New England Association of Railway Surgeons.

1. Force from without, lacerating the tissues from without inward. Illustration: "A thrust from an animal's horn, a kick by a horse, stab wounds," the hernia taking place at the seat of injury.

2. Force from without, lacerating the tissues from within, outward. Illustration: "Wheel of a heavy load passing over the body, falling from a height, bursting the abdomen at the point or points of least resistance."

3. Force from muscular contraction, lacerating the tissues from within outward. Illustration: "Undue tension of the muscular abdominal wall." Doepner says: "Such cases are, however, extremely rare." Boyer mentions the case of a 19-year-old man, who, while lifting a heavy barrel, felt a sudden severe pain in the left inguinal region, as though something had given way. A painful swelling made its appearance at the same spot later on. Operation revealed laceration of the fibers of the cremaster with a hematoma the size of a chicken's egg—and no hernial sac.

4. Force from without, the rings intentionally stretched to escape army service, "as frequently happens in Russia," according to Von Bergmann.

The author has encountered three cases of true traumatic hernia in his practice:

Case I. An old man was caught between a freight car and a heavy wagon. A large mass was readily discernible on the right side. The patient lived three hours. Autopsy revealed skin unbroken, laceration of all the tissues from skin to peritoneum, 2 inches above right internal inguinal ring, through which the viscera protruded, but were reducible.

Case II. A young man was struck with a cane over the region of the lower border of the liver. Skin unbroken, muscles lacerated and hernia resulting. Died from hemorrhage due to extensive laceration of the liver.

Case III. Man forcibly thrust against the end of a wheel-barrow handle. Skin unbroken. Two inches above, and to the left of the left internal inguinal ring, an opening in the muscles could be readily felt, into which three fingers could be thrust. Viscera protruded, reduced readily. No operation. Recovery.

Let us here consider for a moment the four causes of true traumatic hernia:

How a hernia may follow a stab wound, an injury from an animal's horn, a wheel-barrow handle, a kick, or artificial stretching of ring, is readily comprehended and needs no discussion.

How a heavy load upon the chest or abdomen may burst the abdominal cavity, is not difficult of comprehension.

But the laceration of the muscular walls from lifting, or from a sudden jar, is rare enough for us to cast reflection upon the integrity of the muscular tissue, and in such cases, almost doubt the probability of such an occurrence in a normal abdomen. For a viscus to force itself through a healthy abdominal wall by muscular contraction or jar, seems wellnigh impossible.

I have made a number of experiments upon lower animals, and upon the human cadaver, and the amount of force required to push an unyielding blunt object through the normal abdominal wall from within, either at the inguinal ring, or any other sound portion of the abdomen, seemed to me to make it impossible for either omentum or intestine, under any such conditions, to escape its normal bounds. It is with great difficulty that one can thrust his finger from within through the abdominal wall. It is no easy task to follow the spermatic cord from within, into the inguinal canal, providing the internal ring is firmly closed. If the stiff finger cannot penetrate this wall, except under extreme conditions, is it reasonable to think that the soft viscera, the omentum, or gut, could push their way through the wall?

If one will make a few experiments for himself, I feel confident that he will be convinced that true traumatic hernia rarely, if ever, occurs from the force of the viscera, unaided by some instrumental means.

ACCIDENTAL HERNIA.

Classification:

1. Accidental hernia with trauma.
2. Accidental hernia without trauma.

One who has made the experiment of attempting to thrust his finger from within, into a sound inguinal canal, will, I believe, be skeptical, regarding the possibility of an accidental hernia occurring in a sound person. With four associates I made the attempt upon a cadaver of a man who had died of a lingering disease. No embalming solution had been used. The subject was emaciated, and the muscles had shrunken and lost their tone. Add to this the loss of nerve resistance during life. The inguinal region was sound. At the internal ring there was no depression. The strongest man present, an active young ball-player, found it impossible to introduce his finger into the undilated internal inguinal ring from within the abdomen.

We have made many experiments along this line, upon the human cadaver and lower animals, all of which have proven to us that accidental hernia in a sound person is rare, very rare.

Very different is the result where there is a slight depression at the internal inguinal ring, or where there is a congenital weakness, a slight en-

largement of the internal ring, or a pre-formed sac. No matter how slightly may be the enlargement of the ring, or how small the sac, the start for a wedge to enter makes the difference. Now, it is comparatively easy for the finger to enter the inguinal canal from within, the resistance depending upon the abnormality.

The same is true of hernia at other points. Much depends upon the abnormal resistance, or rather, weakness due to congenital deformity, injury or operation.

We may say, then, that accidental hernia in the sound body is improbable. That, in an unsound body, an accidental hernia may occur, the readiness with which it may occur depending upon the abnormality (at the internal ring).

It can be easily conceived that an accidental hernia occurring, may produce more or less trauma —the amount of trauma depending upon the accident or force with which the wedge is driven. It requires no stretch of the imagination to understand how an accidental hernia may occur without trauma where the internal ring is dilated and a sac wide open. The slightest accident might fill the sac with omentum or gut, or both—all depending upon the diameter of the opening and the size of the sac.

Thus far, this paper has been addressed especially to the profession. I want to add a word intended also for the layman.

Hernia is largely avoidable. It might be made rare instead of common.

Let us become enthusiastic in prophylaxis. Instruct the employee as to the best ways of protecting himself. Acquaint those for whom we work with the anatomical structure of the abdominal wall. Show its weaknesses. Tell why there is often a place or ring that has little resistance.

Let the employee understand that in infancy and early childhood corrections often need to be made and that correction at this time is a protection in adult life and old age.

Point out, if possible, the dangers of neglecting hernia. Make it clear how one may protect himself at work or at leisure against accidental hernia.

Teach him what should be done in case of hernia, and why it should be done promptly. Assure him that the operation for hernia is almost painless and the risk to life practically nil.

When the employee understands the risk and the employer appreciates the dangers, both will see the philosophy of correction and protection. There are few who are willful, but many who do not know.

LOCAL ANESTHESIA.

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(*Continued from the February number.*)

OPERATIONS UPON THE INGUINAL AND SCROTAL REGION.

The region about the scrotum, being supplied by terminal nerves of definite distribution, is one of the most satisfactory for the performance of operations by local anesthesia. Hernias occuring in this region, although they involve nerves which are distributed elsewhere, are supplied by nerves which are encountered in the regular course of the operation, so that it is possible to block them without the performance of a preliminary operation. As in all operations where anesthesia is secured by nerve blocking an accurate knowledge of the nerve distribution is a prime essential. This knowledge can be but unsatisfactorily gained from the study of the "anatomies" and it seems desirable to precede the discussion of local anesthesia of this region by a consideration of the nerve supply.

The inguinal region is supplied by the ilio-inguinal, ilio-hypogastric and the genito-crural. The ilio-inguinal reaches the field of interest when it enters the inguinal canal, which it does after piercing the internal oblique and traversing the short distance between this muscle and the aponeurosis of the external oblique. Within the inguinal canal it lies upon the cord toward its lower border. At the median (external) ring it becomes cutaneous and supplies the upper and inner portion of the thigh and, according to most anatomists, the upper portion of the scrotum and the root of the penis in the male, and the upper portion of the labium majus in the female (fig 1). The ilio-hypogastric is of interest only because the hypogastric branch, after leaving the main trunk at the iliac crest, continues between the transversalis and the internal oblique. In the region of the lateral (internal) abdominal ring it enters the substance of the internal oblique and gains the space between this muscle and the aponeurosis of the external oblique above the median (external) abdominal ring. At this point it pierces the aponeurosis and supplies the skin in the region of the pubes. The genito crural nerve divides at the third lumbar vertebra into the genital and crural branches, both of which are of interest in operations under local anesthesia

in this region, the genital branch in inguinal and the crural branch in femoral hernias. The genital branch after crossing the external iliac artery passes forward and downward, enters the inguinal canal, where it lies below and behind the cord, and enters the scrotum. The crural branch enters the thigh by passing beneath Poupart's ligament external to the iliac vessels. One branch enters the saphenous opening while the remainder of the nerve pierces the fascia lata external to the saphenous opening and supplies the skin on the anterior surface of the thigh.

The statements of the anatomies and the researches of Cushing do not agree as to the innervation of the scrotum. According to Cushing the scrotum is not supplied by the nerves above described. The discrepancy may possibly be explained by an overlapping of the nerves in this region such as has been observed on the head and face after the removal of the Gasserian ganglion. It is possible, therefore, that the anatomists are correct in their belief that these nerves supply the upper portion of the scrotum, but as it may also be supplied by nerves from the sacral plexus, sensation remains afer anesthetization or section of the nerves in question. It is sufficient for the purpose of local anesthesia to remember that the blocking of the nerves running in the inguinal canal does not give anesthesia for the skin of the scrotum as it does for the scrotal contents and that if the scrotal skin is to be attacked infiltration is necessary.

The scrotal and perineal regions and the analogous region in the female, as intimated in the preceding paragraph, are supplied by a separate set of nerves. These are derived from the pudic nerve or from the small sciatic nerves, both of which originate in the sacral plexus. This has been definitely proven, not alone by determining that anesthesia in this region is not produced by section of the nerves traversing the inguinal canal, but also by demonstrating that in cases of compression fractures at the 12" dorsal, the scrotum becomes anesthetic although the inguinal group of nerves is uninjured (Cushing). This would make it appear that the anatomists are wrong in believing that the inguinal group supplies the upper portion of the scrotum.

1. HERNIAS.

Operations for hernias, particularly inguinal hernia, have been more frequently done under local anesthesia than any other operations of like magnitude. The reason for this popularity has been the desire of the patient to escape the general anesthetic. The surgeon has acceded to the wish of the patient because the technic for local anesthesia for inguinal hernia is relatively easy to acquire, thanks to the lucid presentation of the subject by Cushing. This surgeon began the use of local anesthesia in this operation only in those cases in which general anesthesia was contraindicated. He discovered that when patients remained in the ward long enough to observe the effects of the operation when done under general and under local anesthesia they invariably chose the latter method for themselves. The experience of the writer has been quite in accord with this. Even more convincing are those instances in which a patient who has had one side operated under general anesthesia and subsequently is

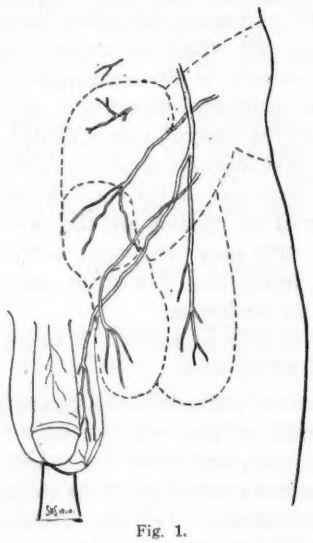

Fig. 1.

operated on the other side under local anesthesia strongly urges his friends to select the latter method. The patients declare that the inconveniences of the general anesthetic are greater than the pain of the operation under local anesthesia if there is any. The surgeon's interest in local anesthesia for hernia operations lies primarily in the fact that many persons seek a radical cure for their hernias when it can be done without general anesthesia who otherwise refuse radical treatment. The convenience to the nursing staff is great since much less care is necessary after local anesthesia than after general. It has been urged that local anesthesia is of great advantage because of the certain avoidance of vomiting. So far as the comfort of the patient

is concerned this is unquestionably true, but so far as the results of the operation are concerned there is little choice, since cure is equally certain after either method. The chief reason for the preference of local anesthesia is because of the lessened suffering of the patient. This comfort of the patient is purchased at a slight sacrifice on the part of the surgeon. Greater care in manipulation is required when operating under local anesthesia and more time is required for the performance of the operation. Under general anesthesia, fifteen or twenty minutes are required, while under local anesthesia, twice as much time will ordinarily be consumed. In those cases, therefore, in which there is no positive indication for general anesthesia, the slight, though definite degree of danger is avoided by the use of local anesthesia. There are a number of conditions in which the choice of local anesthesia is mandatory upon the surgeon—namely, those cases in which renal, cardiac or pulmonary disease contraindicates the use of general anesthesia. It may be argued that persons so affected should be allowed to retain their hernias. Aside from instances in which because of strangulation operation is compulsory, many cases are attended by great discomfort which cannot be relieved by trusses. Frequently persons who have worn a truss successfully for many years, discover when they pass the meridian of life, and their tissues lose elasticity, that they are no longer able to retain their hernias by means of a truss. To such persons local anesthesia offers a certain and safe means of riddance from a very troublesome malady.

Practically all hernia can be operated under local anesthesia. The simple inguinal variety, because of the accessability of the nerve supply, lends itself particularly to operation under local anesthesia, but femoral and umbilical varieties likewise may be operated by this method. Intermuscular and interstitial hernias, because of the large area they sometimes occupy, offer the greatest difficulty. Large omental hernias with adherent sacs, and sacs which have been treated by injection sometimes offer difficulties, but all of them can be operated with local anesthesia. The mere size of the hernia influences the difficulty of the operation very little. In the more difficult types, when no contraindication to general anesthesia exists, this method is preferable because of the greater speed with which the operator is able to work. But if such contraindication does exist, then local anesthesia should be chosen.

The technic of the operation varies naturally for the different kinds of hernias and they may be taken up in order.

1. Inguinal hernia.

The type of operation is in no wise dictated by local anesthesia. Since, however, the technic of the anesthesia is best discussed when a definite operation is described, the operation as we perform it will be followed step by step. Any modification the operator may prefer can be easily substituted at any given point.

The skin incision.

Ordinarily the incision is made along the direction of the canal as far as the root of the scrotum. This incision gives most ready access to the canal

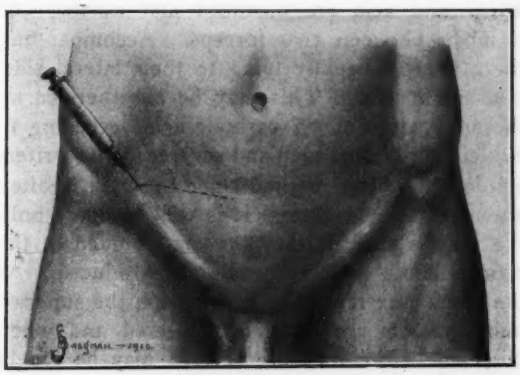

Fig. 2.

and is perhaps to be preferred by beginners. It invades a region of skin normally covered by hair and no matter how careful the preparation, the field is more difficult to cleanse properly than the region higher up on the abdomen, not alone because of the greater number of bacteria, but also because the skin of the scrotum admits of mechanical and chemical cleansing less readily. The greatest difficulty with the low incision is, however, to protect the wound properly after the operation has been finished. A spica about the thigh is necessary and this bandage when applied with extended thigh becomes loose when the thigh is flexed or if applied with flexed thigh it becomes uncomfortable when an attempt is made to extend the thigh.

The author for these reasons prefers to make the high incision beginning at a point 5 cm. medial to the anterior superior spine and 2 cm. below it. The infiltration of the skin is begun at the point nearest the operator (fig. 2). A line

6 to 10 mm. wide is infiltrated for a distance of 7 cm. This forms a strip beginning immediately above (coudad to) the lateral (internal) inguinal ring and extending to a point several cm. above the median (external) inguinal ring. The solution formerly used by us for the infiltration was ½% cocain, but this has been superseded by a 4/5% quinine solution (4 grains to 1 oz. of sterile water). At the median end of this line of infiltration a branch of the hypogastric part of the ilio-hypogastric nerve approaches the skin to supply the region immediately over the pubes. This nerve may be blocked by injecting a cc. subcutaneously at this point. As soon as the injection has been finished the incision may be made. The skin is incised to the subcutaneous fat. This having been reached the superficial epigastric artery and vein are identified and isolated and clamped between two forceps. Accompanying these vessels, usually lying to their lateral side, is a small nerve. This may be anesthetized by the application of 5% carbolic acid according to Schleich or disregarded and severed. The writers employ the latter method since the pain is often absent and never great. It is well to ligate only the vessels since if the nerve is included in the clamps acute pain is needlessly produced. At the median extremity of the incision the superior pubic vessels are often encountered and when observed before they are severed may be caught up. If the low incision is made the deep external pubic may be encountered together with a perineal nerve. These vessels having been attended to the incision is made rapidly down to the fascia of the external oblique. Immediately above the fascia sometimes small nerves are encountered which when severed cause the patient some discomfort. About the intercolumnar fibers nerves are frequently found which cause the patient some pain when not previously infiltrated. Because of the looseness of the tissue at this point some time must elapse after infiltration before anesthesia is complete. For this reason the writers prefer to disregard the slight discomfort so produced and incise the fascia of the external oblique the entire length of the canal. This incision should be made 15 mm. above Poupart's ligament in order to facilitate suture. The edges of the fascia may be picked up with forceps and raised sufficiently to form flaps for convenient imbrication at the completion of the operation. The inguinal canal with the hernial sac is now exposed. This is manipulated cautiously until the inguinal branch of the ilio-inguinal nerve is located. This nerve usually lies above and anterior to the cord and may usually be found without difficulty if the tissues are kept free from blood. It is gently isolated and picked up between forceps and blocked by injecting into the sheeth a four-fifths per cent. quinine or a one-half per cent. cocain solution, according to the technic already described. When we use cocain we find the one-half per cent. sufficient instead of the one per cent. recommended by Cushing. The advantage is merely that since the one-half per cent. is already being used for the infiltration it is not necessary to have at hand a solution of a different strength. If the injection is well made the sheath should be distended sausage-like by the fluid. If this distension is secured, anesthesia is produced very quickly with quinine or either of the cocain solutions above mentioned. The nerve is then pushed out of the way and the cord isolated by strokes of the knife rather than by blunt dissection with the gauze-armed finger. The sac is then isolated from the cord without disturbing the latter. If the muscle is to be incised after the method of Halstead, it should be infiltrated at the time the nerve is blocked. We never incise the muscle, hence omit the infiltration. When the sac has been separated to its base, it is transfixed and doubly ligated and severed. If properly isolated it retracts into the abdomen. Sometimes the nerves in the canal are divided into numerous bundles, each of which is too small to admit of intraneural injection. In these instances the entire sac, free from intestines, is picked up between the thumb and finger, gently pressed together and the tissue thus grasped thoroughly infiltrated. After a few minutes anesthesia will be found satisfactory. After the sac has been severed at its base it may be isolated downward toward the testicle to its end or the redundant portion only may be removed and the remaining portion obliterated by whipping it up with fine catgut. When the sac is small, extending only to the median (external) ring, it may be removed entire; but when it extends into the scrotum we prefer to leave it. If it is removed an oozing surface remains, which frequently causes a hematoma to form about the cord. This condition, while not serious, leads the patient to ask annoying questions. This consideration is quite apart from that of anesthesia, for when the nerves traversing the canal are properly blocked the removal of the sac is painless. There remains now the closure of the canal. This may be affected in any manner the

surgeon may elect so far as the anesthesia is concerned. The cord may be displaced after Bassini's method, allowed to remain in its position, or pushed downward toward the pubes after the method of Furgeson. The requirements of the particular case in question decides for us the method to be employed. Occasionally the common tendon is slightly sensitive to the needle and to the pressure of the ligature, but this is momentary and may be disregarded. The floor of the canal having been closed, the fascia of the external oblique may be united edge to edge, or folded up, or better still, by imbrication according to Andrews. When the fibers are scattered a bunching together is better than an attempt at imbrication of the thinned flaps. If preliminary hemostasis has been properly attended to the superficial wound should be perfectly dry and unstained by blood. The skin sutures may be placed in any manner desired so long as it is remembered to stay in the area originally infiltrated. Even if cocain has been used for the preliminary infiltration we have always found the skin insensitive to the passage of the needle so long as uninfiltrated skin is not invaded.

When Schleich's solution is used the skin is infiltrated tensely and the subcutaneous tissue edematized. For this several ounces of fluid may be employed. After some minutes have elapsed the operation may be proceeded with. We do not employ this method because more extensive incisions are required and we believe a proper closure of the wounds is more difficult. The dilution of the natural fluids of the body which have to do with repair interferes with an ideal wound healing. For this reason we believe it is important to avoid injecting those tissues which must be depended upon to form the retaining walls for the abdominal contents. If adrenalin is added to the solution we feel confident that it is important to avoid its coming into contact with the fascia which we depend upon to form the strength of the abdominal wall, for certain processes essential to proper healing are interfered with by the adrenalin.

Whether the operation has been performed under local anesthesia or under general anesthesia, we keep the patient in bed approximately a week or two weeks for very large hernias, and then allow him to go about as he wishes.

We have never had a case of suppuration, though the solutions are not boiled before using. Gloves are invariably worn.

2. STRANGULATED INGUINAL HERNIA.

In the use of local anesthesia in cases of neglected strangulated hernia the general technic does not differ materially from that of the curative operation in the early stages of the strangulation, but in the later stages it is quite impossible to carry out the typical technic. The skin infiltration is best made over the most prominent part of the tumor extending over the lateral (internal) ring. The incision is then made down to the sac, giving the same attention if possible to the bloodvessels as indicated in the typical operation. If the tumor is very tender to the touch because of reactive inflammation because of the degree of reaction in the gut or from excessive manipulation it is well to infiltrate thoroughly the subcutaneous tissue about the sac, care being taken, of course, not to penetrate the incarcerated gut. The Schleich solu-

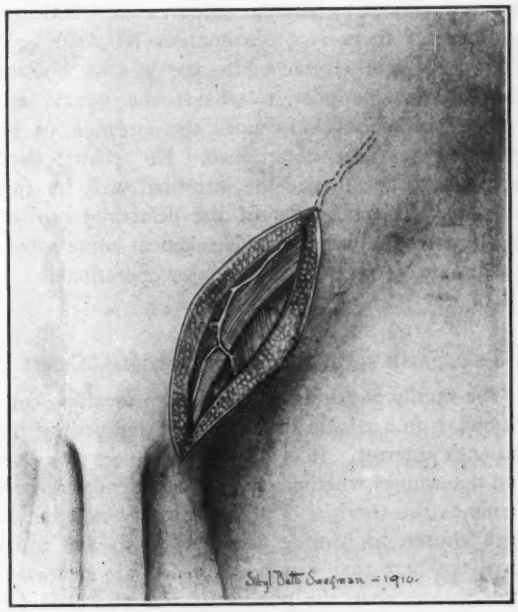

Fig. 3.

tion No. 2 or one-half per cent. quinine solution may be used. After the infiltration has been completed the sac is cautiously cut into and the contents exposed. The subsequent plan of operation may then be built up from the evidence then available. If the contents are viable a simple release of them is all that is required. The base of the sac and the surrounding tissues are carefully infiltrated, the extent depending upon the sensitiveness of the tissue. If the nerve trunks can be found they should be infiltrated. Usually, however, all nerves are blocked by perineural infiltration at the upper end of the incision. In such tissue some minutes

(5 to 20) must be allowed to elapse for the anesthesia to become complete. The canal is then enlarged by extending the incision upward and outward until the contents of the sac can be returned. If the condition of the surrounding tissue will admit of it, the radical operation may be proceeded with. If the omentum is necrotic it may be ligated well proximal to the necrotic area in the usual manner without attempt at anesthetization. If the omentum is adherent to the sac and viable it may be infiltrated at the point of constriction before an attempt is made to loosen it. If the adhesions are extensive, that portion involved in the adhesion should be resected, for if returned to the abdomen new adhesions will be established with other viscera. If the intestine is not viable it should be sutured to the edge of the wound and the intestine drained without an attempt to do an immediate resection. If there is a question of its viability it should be lightly attached to the wound, holding the questionable portion outside the wound enveloped in moist cloths until the question of its resection has been determined. No attempt need be made to anesthetize the intestinal wall for this purpose. The resection of the destroyed portion of the intestine may be undertaken at some subsequent date. (See section on major operations.)

(*To be continued.*)

THE FAMILY PHYSICIAN IN SURGICAL CASES.

The family physician alone, under prevailing conditions, is in a position to safeguard and protect his patient's interest. It is he who first sees the case and determines whether or not his patient's interest demands the services of a surgeon. Should he inbeen chosen to preside are entitled to and must have the best that can be provided along special lines at any cost, the public themselves would ere long be able to place all members of the profession where they could do their best work. Every man would under such condition occupy the sphere of usefulness to which he belongs, to which his special talent might be best adapted, to the betterment of mankind and the advancement of the profession as well.—F. D. SMYTHE, in *The Memphis Medical Journal.*

A small, tender, usually more or less reddened swelling appearing suddenly in the submental region may follow exposure to the cold. Similar swellings often appear simultaneously over the malar prominences. The best treatment is none.

AN IMPROVED METHOD OF INTERMITTENT WOUND IRRIGATION.

ARTHUR J. BENDICK, M.D.,
NEW YORK CITY.

In the January (1909) number of the AMERICAN JOURNAL OF SURGERY I described a method of intermittent irrigation for the treatment of severe injections of the extremities and other accessible parts of the body. The object of the apparatus described was to change a slow, ineffectual, continuous flow to periodic sudden gushings, which would completely flush out all accumulations from the part. The advantages claimed over continuous irrigation were:

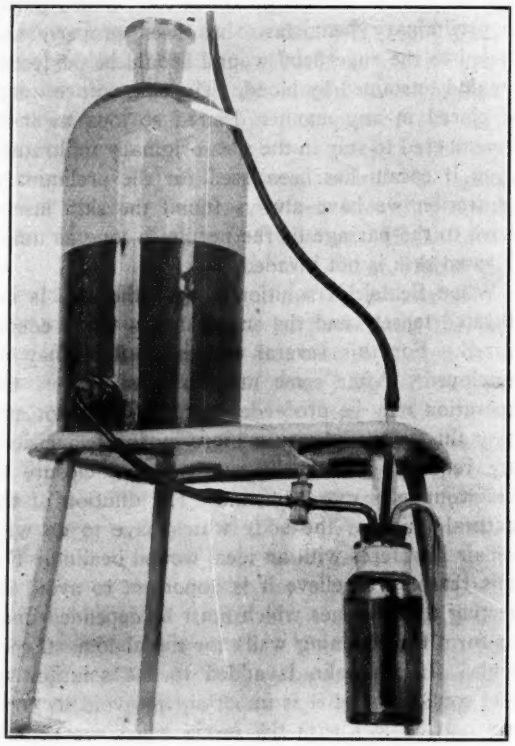

Fig. 1. Photograph of irrigating apparatus set up.

1. More complete cleansing of the part.
2. Less consumption of fluid, hence less labor to keep the apparatus working.
3. More tonic, stimulating effect.
4. Less edematous infiltration of the part.

During the past year I have had an opportunity to test the method on numerous surgical cases on the service of Dr. Lilienthal at Mt. Sinai Hospital. The result has proven conclusively that intermittent irrigation has a definite field in surgery, especially in infections of the extremities.

I have considerably modified the arrangement of the device previously described. The mechanical principle is the same, but the later scheme provides greater efficiency.

The apparatus as now used is shown in figure 1. A large bottle holding 5-10 gallons is placed at a sufficient height above the bed to insure a forceable flow. A few inches below the outlet is placed the interrupter (figures 1 and 2) from which the fluid is conveyed directly to the part. The interrupter consists of a small bottle (F) with a rubber stopper

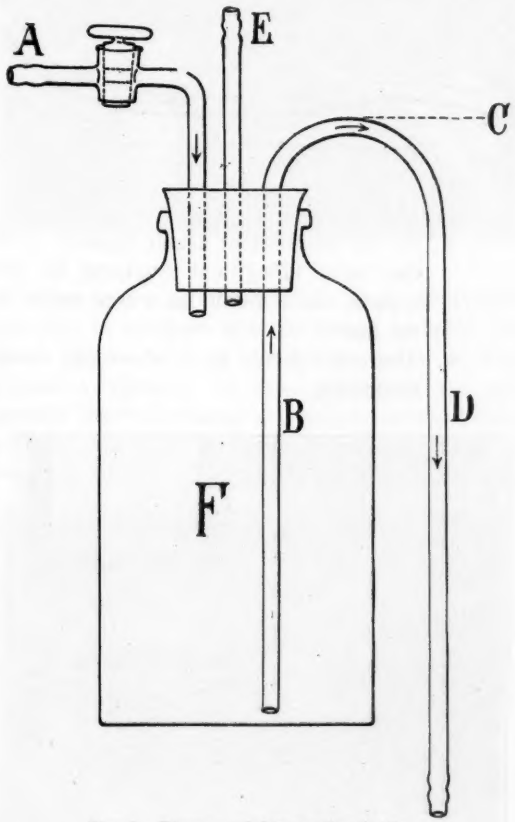

Fig. 2. Diagram of interrupting bottle.

with three openings for glass tubes, one tube, A, to admit the fluid, another, E, to admit air, and the third, B-D, to form a syphon. At A a clamp or preferably a glass stop-cock is used to regulate the flow. The interrupter is easily contrived, but it may be obtained complete from Eimer & Amend, New York.

The fluid from the reservoir enters the bottle through the tube A and simultaneously fills the bottle F and the tube B. When the bottle is filled, the fluid, still rising, fills the tubes E and B until the level C is reached, after which the fluid fills the tube D, thus forming a syphon in the tube B-D which quickly empties the bottle. When the bottle is emptied air is drawn into the tube B-D, thus breaking the syphon action. The fluid then slowly fills the bottle and the cycle is repeated. By adjusting the flow at A the intervals between flushings can be accurately regulated. It is well to attach a rubber tube to the glass tube E and carry the end above the level of the fluid in the reservoir to prevent any overflow if the outlet of the syphon should accidentally become twisted or clogged.

The bed of the patient may be arranged in several ways. Rubber sheeting under the part, with elevation of the head of the bed is the simplest. At Mt. Sinai Hospital we use a special trough (figure 3) for the extremities, inside of which the limb is slung by means of a rubber cloth with many slits

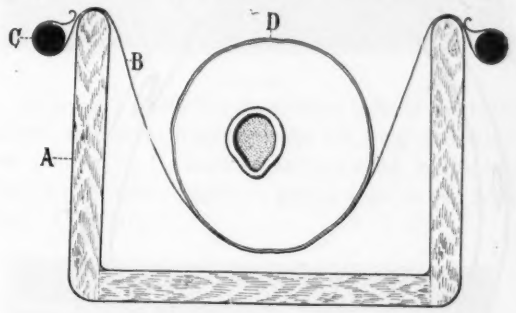

Fig. 3. Diagram of trough for an extremity. A, wooden trough; B, perforated rubber sheeting suspended from C, rail or tube on each side of trough; D, limb.

cut into it, which slits prevent any accumulation of fluid about the limb. For gynecological cases as in septic metritis or endometritis, a Kelly pad may be used, elevating the head of the bed.

The solution may be introduced into the wound by means of a single tube, or preferably by several tubes connecting them by means of glass tips. For a large open cavity, *e.g.*, the knee-joint, a single curved tube (A, figure 4) may be used. For deep drainage through and through tubes are best, because they are more readily kept in position, and are less apt to become clogged. Tubes perforated along the portions that are within the limb, and which are clamped at the free end, give the most satisfaction (C, figure 5). The tubes are best introduced at the time of operation.

For the irrigating solution one may use normal saline, weak iodine or potassium permanganate, sterile or even tap water. The rate of flow should be several drops a second.

Continuous irrigation is indicated:

1. As an adjunct to surgery permitting the use of

smaller incisions, often obviating the necessity of opening up large areas.

2. In infections of the extremities where there is a profuse discharge which does not yield to ordinary dressings.

3. In cases where the discharge is extremely fetid.

4. In chronic suppurative cases often not running high fever but with such low vital resistance that there is little or no local reaction.

5. To prevent infection of new areas as in resections, transplantations, or where an abscess suddenly ruptures into a clean cavity as the knee-joint.

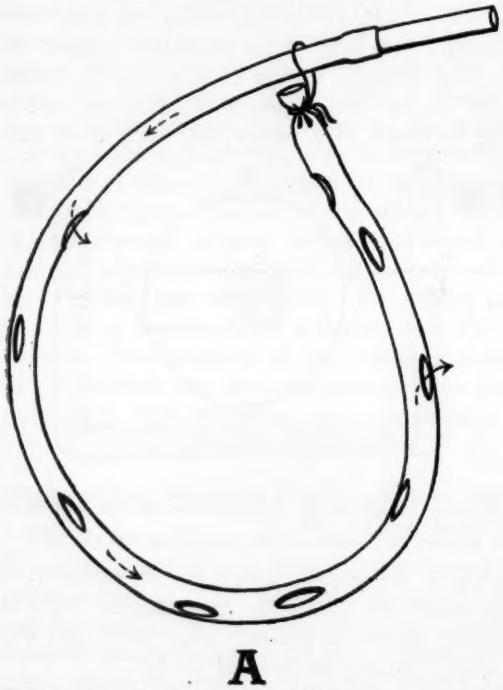

Fig. 4. Arrangement of irrigating tube for an open cavity.

The most marked effects of the irrigation are:

1. The immediate fall of temperature even in the most severe advanced cases. If the temperature persists it is invariably due to some other focus of infection, either some undrained pocket in the limb, or a complication in some distant organ, or a blood infection.

2. There is no accumulation of discharges, the part remaining absolutely clean.

3. The odor is destroyed.

4. Pain is removed.

5. There is a marked stimulating effect on the tissues.

The question of how long the irrigation should be continued must be determined in each individual case. The temperature is the main guide. If the fever is low and the part remains clean, the irrigation may be removed in four to six days. If the temperature rises above 101° the irrigation should again be started. A slight subsequent rise of temperature is often noticed which disappears in a few days.

There are several precautions to observe in using this method of irrigation:

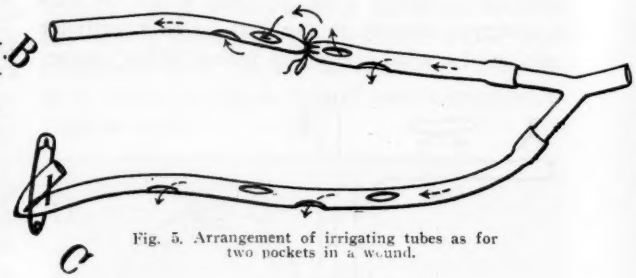

Fig. 5. Arrangement of irrigating tubes as for two pockets in a wound.

I. The apparatus:

a. As the intermittent action depends upon the rapid filling and emptying of the syphon, there should be a free outlet to the flow.

b. The tubes should be as short and direct as possible.

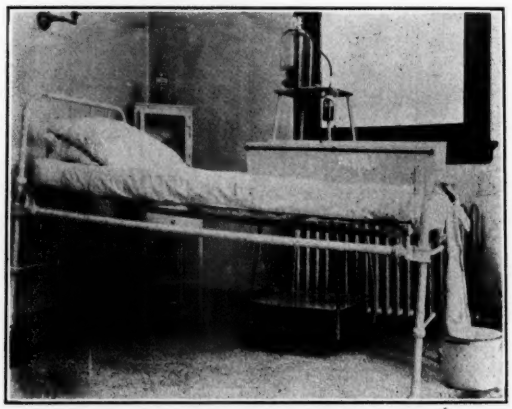

Fig. 6. Photograph of bed, trough, rubber sheeting, receiving pail and irrigating apparatus in position.

c. The lumen of the glass syphon should be about 3 mm. in diameter.

II. The patient:

a. All foci must be drained.

b. The exposed skin should be smeared with some soothing ointment.

c. The openings about the tubes should be free so that the escape of fluid is immediate.

112 WEST 72ND STREET.

A MEANS OF TYING KNOTS WHEN ONE END OF THE SUTURE IS VERY SHORT.

A. L. SORESI, M.D.

NEW YORK.

The illustrations show a very simple means of tying knots even when it would be impossible in any other way on account of the shortness of the ends.

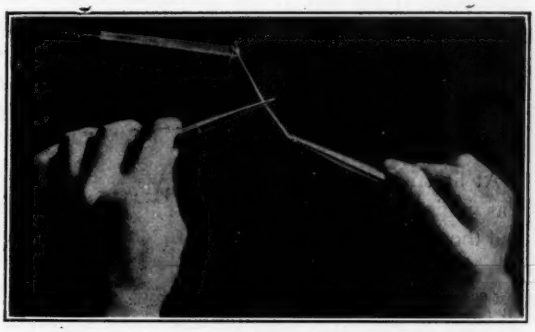

Fig. 1.

To tie knots, as shown in the illustrations, one end may be so short as to be almost invisible, the other should be long enough to make a loop around a forceps. In case both ends are extremely short the longer end will be grasped with a sharp pointed forceps so as to make the loop as short as possible. When both ends are sufficiently

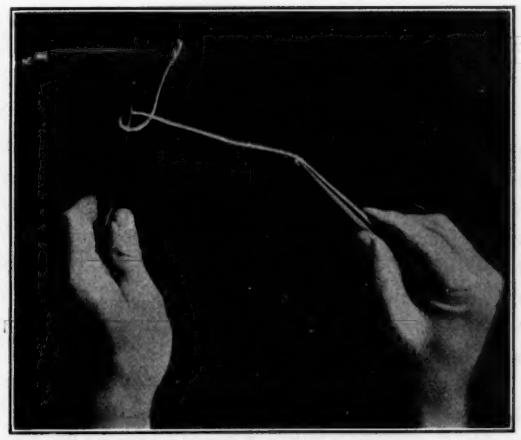

Fig. 2.

long the index finger and thumb of each hand can advantageously substitute the forceps.

This knot will be appreciated by surgeons doing vaginal and abdominal work, when sometimes at the end of a very painstaking suture, the suture material breaks. I think that practically in every condition as many knots as desired can always be tied by the method here illustrated.

The illustrations show only how to tie a knot when one end is very short. It is obvious that the longer the ends the better. A knot has been tied around the handle of a knife to show schematically how the knot is tied. In an operation the suture is held in place by being passed through the tissues.

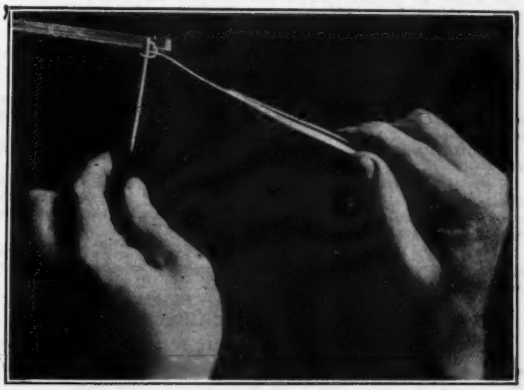

Fig. 3.

STEP I. A plain thumb forceps held in the right thumb and index fingers grasps the long end without pulling on it; another forceps held in the left thumb and index fingers is gently laid on the long end. (Fig. 1.)

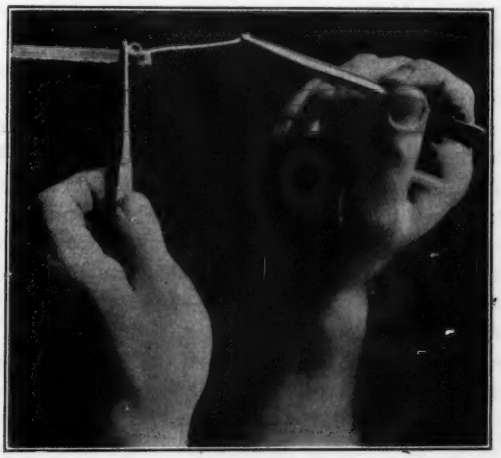

Fig. 4.

STEP II. The forceps held in the right hand makes a loop around the forceps held in the left hand. (Fig. 2.)

STEP III. The forceps held in and surrounded by this loop, the left hand grasps the short end of the suture. (Fig. 3.)

STEP IV. While the forceps held in the left hand still firmly holds the short end, the right hand holding the forceps pulls on the long end so tying the knot. (Fig. 4.)

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WALTER M. BRICKNER, M.D., Editor

NEW YORK, MARCH, 1911.

INTRATRACHEAL INSUFFLATION.

When Meltzer in 1909 first published his experiments showing that an animal can be kept alive indefinitely by intratracheal insufflation even though its respiratory muscles are paralyzed, the medical profession failed to realize the great importance of this work. Surgery is now waking up to its possibilities. Meltzer, Auer, Carrel and Elsberg have developed the surgical technic of the procedure to a point at which it is capable of saving many lives, formerly destined to be lost. The principle is simple. A catheter, half the size of the caliber of the trachea, is passed through the larynx, down to a point just above the bifurcation of the trachea, and air is pumped through it so as to give a degree of pressure somewhat greater than that of the atmosphere. It circulates through the lungs, and escapes along the side of the tube. If the pressure employed is sufficiently great, respiratory movements may cease and the animal continue to live. The air may be mixed with oxygen, or with anesthetic vapor. A foot bellows or a pump driven by a small electric motor is employed.

We are indebted to Elsberg (*Annals of Surgery*, February, 1911), for an apparatus, so compact that it may be transported easily by hand, which places the intratracheal insufflation of air, gases and anesthetic with mathematic accuracy, all under the control of an operator. The patients who have been insufflated and anesthetized for operation by this method have done remarkably well. Cyanotic patients have their color restored. Anesthesia may be continued for a long time without apparent harm. The patients awaken almost immediately after the insufflation is stopped. There is an entire absence of mucous rattling in the throat during the anesthesia. The ether may be turned off and pure air insufflated at the end of the operation to blow out the ether. Elsberg's apparatus permits the mixing of air, oxygen, and ether vapor in any desired proportion. Cough or pulmonary complications have not been caused by the operation. Post-operative vomiting has been absent.

At first it seemed that this method of anesthesia was indicated alone in operations upon the lungs and thorax, but experience seems to show that it has a wider field, and may be employed in abdominal operations and in operations about the head in which it is desired to keep the anesthetic apparatus away from the field of operation.

It is not difficult to imagine the still larger range of application open to this principle of forcing air and gas into the lungs. Pneumonia, illuminating-gas poisoning, opium poisoning, and many other conditions, in which deficient oxidation threatens life, may in the course of time be brought within the field of Meltzer's benificent discovery.—J. P. W.

THE NEWER ATTITUDE TOWARD SYPHILIS.

Two great changes have taken place in recent time respecting the medical and public attitude toward syphilis. One is the larger knowledge, whereby its recognition and cure have been rendered more facile. The other is an aroused public interest in the widespread and direful results of the disease. Out of this new knowledge and public interest, is destined to come a diminution in the ravages of syphilis.

There are three noteworthy advances in the newer knowledge of syphilis: its prevention, its diagnosis, and its treatment. While calomel ointment has been proved an effective chemical prophylactic, a still better prophylaxis has resulted from the free public discussion and the dissemination of information upon the contagiousness and dangers of the disease. The discovery of the treponema pallidum marked the great step in accuracy of diagnosis, and the Wassermann reaction places at the service of the surgeon a clinical diagnostic method of enormous

value. The treatment devised by Ehrlich is destined to save countless lives and prevent untold suffering.

As a striking example of the possibilities of the new knowledge, we may consider tumor of the brain. Here it has been the practice, as a routine measure, to administer mercury and iodides, often for long periods. The treatment has been aimed first as a diagnostic rather than therapeutic measure. If the symptoms yielded and were held in abeyance, the disease was assumed to be due to gumma. But it was found that in many cases so much inflammatory tissue had been deposited that the treatment failed to cause much amelioration. And, moreover, it was also found that the mixed treatment brought about a period of improvement in many cases of sarcoma and glioma. Thus mercury and iodides often fail both as diagnostic and as therapeutic aids.

In the light of the newer knowledge, the Wassermann reaction should supersede the old diagnostic method when there is doubt. The tumor having been determined as associated with syphilis, the treatment may be pursued with a better conscience and a firmer grasp upon the situation, than can be the case when speculative treatment is combined with diagnostic uncertainty. Whether the older methods of treatment shall be continued or the new treatment of Ehrlich applied must depend upon the character of the case. The positive indications for the use of salvarsan are being formulated out of the large clinical experience which is now developing.

Sir Victor Horsley, than whom there is no greater authority, asserts that the amount of permanent inflammatory tissue about a gumma of the brain is so great that it is futile to consume time with medication if the disease is accessible, and that the first duty of the surgeon is to expose the gumma, excise it, and irrigate the region with bichloride of mercury solution. If there are pronounced symptoms of brain tumor, with increased intracranial pressure, the delay entailed by the exhibition of antisyphilitic medication may be responsible for the loss of eye-sight or other permanent damage.

A final step in the control of this disease is a legislative one. Along with gonorrhea it should be made reportable to the health authorities. It is intensely contagious, and of vastly greater social importance than measles, chicken pox, or scarlatina. It produces more defectives, to become burdens upon the State, than any other disease. It is the most important infective factor that influences the race. Society is only just beginning to grasp the syphilis problem.—J. P. W.

Surgical Suggestions

When resecting the cecum be careful not to tie the mesentery of the ascending colon too close to the bowel—the anastomosing loop of the ileo-colic and colica media lies very near the gut.

After resection of the small bowel lateral anastomosis possesses several advantages, as to safety, simplicity and patency, over end-to-end union. The gut ultimately becomes a straight tube if the stoma is made near the closed ends.

In an injury to the wrist tenderness just distad to the radius and in the "anatomical snuff box" is significant of fracture of the scaphoid.

When dealing with a chronic bone abscess (and often, too, in acuter cases) it saves weeks of after-treatment to work with an osteo-periosteal ("coffin lid") flap, and close the wound completely.

If a patient with the signs and symptoms of chronic appendicitis is unduly anemic and has lost weight, be prepared for the possibility of a more serious lesion, e. g., neoplasm, ileocecal tuberculosis.

Lavage of the stomach preparatory to an operation for intestinal obstruction had best be done before anesthetizing. Performed during narcosis the procedure *may* cause alarming embarrassment of respiration and, if the throat *should* become flooded with mucus or stomach content, as occasionally happens, an aspiration pneumonia is very apt to follow.

Many, if not most, of the cases of shoulder pain variously diagnosed as circumflex neuritis, rheumatism, etc., are instances of subacromial or subcoracoid bursitis. With involvement of the former bursa there is usually tenderness just beyond the acromion, usually somewhat anteriorly; in the latter there is marked tenderness just external to the coracoid tip. Pain on rotation of the arm may be present in either; it is most constant in subcoracoid bursitis.

Surgical Sociology

Ira S. Wile, M.D.
Department Editor.

When Schaudinn and Hoffman discovered the spirochaeta pallida, the world rejoiced that the cause of the dread black plague was known. When Wassermann modified the test of Bordet and Gengou the world marveled at the great advance in the diagnosis of syphilis and the parasyphilitic diseases. Before there is time to actually prove, beyond the shadow of a doubt, the full value to be given to the Wassermann or the Noguchi modification, the wizardly genius of Ehrlich has startled those bent upon diagnosis by announcing a probable speedy cure for syphilis and other forms of spirillosis. Mirabile dictu! Syphilis is no longer to be the scourge of the race, the bête noir of the moral swamp. It is early, of course, to appreciate the true place of "606" in therapeutics, but the present reports from Wechselman, Neisser, Alt and other careful clinicians give promise that the conquest of lues is at hand. What is the social import of the success of the long named synthetic? What does the cure of lues mean to the community? Why is this "sterilisatio magna" a tremendous asset for the world?

Syphilis as a cause of death is apparently on the increase in the United States. There were, according to the U. S. Census Report, 2,432 deaths from lues in 1908 in the registration area, a rate of 5.4 per 100,000, as compared to 1,335 deaths for the five-year average from 1901 to 1905, or a rate of 4.1 per 100,000 from the same cause.

These figures for 1908 do not include the 1,198 deaths ascribed to locomotor ataxia, nor the 2,234 deaths due to paresis, which really bring the number of deaths from lues up to 5,864 for the year 1908. No account is taken of diseases like aneurism, hydrocephalus, insanities, and various other luetic origined conditions that would swell the total loss from lues into amazingly high figures. Osler has made the statement that one out of eighty deaths is due to syphilis. France has a mortality rate from this cause of 7.5%. Neisser claims that 15% of the adult male population have lues. Dr. Morrow estimates that there are 2,000,000 syphilitics in the United States. And a cure is in sight!

Our army and navy will have a greater available strength in the future. Hoff reports for 1908 a morbidity rate for lues as far as army hospitals go, of 26.4 per mille for the army. Fully 25% of the English troops returned from their services in India syphilitics. The prevention of the wide devastation by this danger will allow many soldiers to live to fight another day.

The conquest of syphilis means a decrease by one-half of our institutions for defectives. The burden of taxation for the economic débris will be lightened. Educational systems will be benefited by a higher grade of educable minds. Insane individuals will not form so large a part of the community and there will be a falling off of one-half of the State hospitals, in size at least.

There will be an increase of the population through the saving of at least 40% of the loss in birth rate due to miscarriage or premature labor. There will be a saving in the infant mortality. At present about 1.2% of the mortality of the first year of life is due to lues. With the administration of "606" to the mother there should be complete prevention of congenital syphilis. The gain in life is to be followed by the gain in health that will ensue to unprotected childhood, whose lot is often sorrowed by an attack of non-venereal lues.

The medical profession will have at one swoop a large part of its work made easy and a considerable portion of its patients cured. The prompt cure of lues will go a long way to increasing the present congestion of the medical profession by lessening the amount of luetic patients who will be available at any one time and by shortening the period of luetic morbidity in the case of acute syphilis.

The spread of venereal diseases like syphilis is attributed often to ignorance and the conquest of the black plague has been calculated as resting upon a campaign of education together with an attempt to raise the general standard of morality. The future shows the first attack upon lues must be made on the purely physical side, that of curing the disease. The fight for a higher morality will be harder than ever, for the dread of the pox will decrease with the assurance of its curability. Syphilis may even, for a time, increase because, the greatest physical deterrent being removed, there will be less worry over the incidence of the condition and less use of hygienic measures to prevent the disease. The present status of gonorrhea will serve as the means of physically frightening into existence the sex morality that may serve to cut down the increase in prostitution that is threatened. Dreyer and Meirowsky have shown that 83% to 89% of one hundred registered prostitutes of Cologne gave positive reactions to the Wassermann test. They also showed that it was almost a certainty that all prostitutes have lues within the first year of their pernicious activity. The cure of this state of affairs again lies in the use of "606" as a part of the medico-legal care of the Hetairae. The lessening of the spread of lues must be attacked in all its manifold phases, without regard to the criticisms that are bound to come as the result of the failure of some people to understand that available measures must first be utilized to the utmost to stay disease. Immorality is not encouraged by endeavoring to wipe out its stains. Sex morality may lessen the incidence of lues but "606" will rob it of its frightful penalties by reason of which all syphilis is actually visited upon the innocent even unto the third and the fourth generation.

Surgery of to-day has developed technic to a very fine point and the various duties assigned to

the nurses are by no means of the least importance. The nursing profession has been evolving a modus operandi that carries the lessons of asepsis to the masses in a direct manner and with ample demonstration. The Visiting Nurse is the most important social educator that is to be found.

There are over 575 various organizations, including numerous factories, commercial houses, department stores, insurance companies, settlements, municipalities, hospitals and dispensaries that are utilizing more than 1,500 nurses constantly in the splendid humanitarian work of visiting the sick poor in their homes. This is but the beginning of this form of work. Its future deserves the attention and support of all surgeons. The nurses do not supersede the surgeon, but merely cooperate with him and carry out the instructions that he may give and leave a record of the condition of the patient at the time of the visit of the nurse for the information of the attendant physician.

With hospitals overcrowded and space in demand, there is much reason for advocating the home nursing of all cases that can receive adequate care in the home. Many conditions do not make a rapid convalescence in the hospitals and such may be well cared for at home. Severe ulcers, moderately extensive burns, abscesses, dressings for injuries of the lower extremity, and minor surgical dressings can receive home attention at the hands of capable visting nurses, who at the same time are teaching the patient and his family the necessity of proper care and the methods of securing the prompt healing of wounds that are kept clean. The nursing is uniformly attended with the same results that might be secured in the wards of the hospital. The nurse may also be the judge of the necessity of the patient returning to the hospital in the event of any unexpected complication.

Hospitals and dispensaries that do not have visiting nurses on their own staff should take advantage of the opportunity afforded by existing visiting nurses' associations in their vicinity by referring patients to them for care in the homes. Surgical institutions should be the first to appreciate the nature of this nursing service. For some reason, medical men have been suspicious of the visiting nurses and have failed to send patients to receive the advantages of nursing care at home. Surgeons, above all men, know the necessity and value of the ministrations of a sympathetic, well trained and equipped, resourceful nurse. Among the wealthy, there is little difficulty in securing the benefits of such nursing care. The great middle class and the poor can be given at least the opportunity of having a similar type of service rendered to them through the medium of the visiting nurses.

The tendency to institutionalize people is at a turning point, and is giving way to carrying to hospitals only those who really require hospital treatment. The visiting nurse is becoming a great factor in rationalizing and humanizing the care of the sick poor and through her efforts people will have a better understanding of the value of hospitals and dispensaries and will accept surgical treatment that is suggested by the attendant physician with a better spirit and greater promptness than is common at the present time.

Book Reviews

Urgent Surgery. By Felix Lejars, Professeur Agrégé à la Faculté de Médecine de Paris; Chirurgien de l'Hôpital Saint-Antoine, etc. Translated from the sixth French edition by William S. Dickie, F.R.C.S., Surgeon, North Riding Infirmary, Middlesbrough; Consulting Surgeon, Eston Hospital, etc. *Volume II.* Large octavo; 580 pages; 20 full-page plates and 994 illustrations. New York: William Wood & Co., 1910. Price, $7.00. (Per set, $14.00.)

In a more extended review of the first volume of this translation of Lejars' "Chirurgie d'Urgence" (June, 1910), the best of the works on emrgency surgery, we called attention to its eminently practical character, its presentation of useful little methods and devices from the author's wide experience, the excellence of the translation and of the translator's notes, and the great value of the numerous illustrations.

The second volume, which deals with the genito-urinary organs, the rectum and anus, the strangulated hernias, and the extremities, leads us to no modification of our praise. It is, like the first, an excellent translation of a splendid work, pervaded with the personal experiences and the personality of a very practical surgeon and a good teacher. We would, however, repeat, in kind, a criticism made of the first volume. Operations for fracture of the patella and of the olecranon belong under no conditions to the field of urgent surgery, and their descriptions are out of place in this work.

Bismuth Paste in Chronic Suppurations. Its Diagnostic Importance and Therapeutic Value. By Emil G. Beck, M.D., Surgeon to the North Chicago Hospital, Chicago, Ill. With an Introduction by Carl Beck, M.D., and a Chapter on the Application of Bismuth Paste in the Treatment of Chronic Suppuration of the Nasal Accessory Sinuses and of the Ear, by Joseph C. Beck, M.D. Octavo; 237 pages; 91 illustrations. St. Louis: C. V. Mosby Co., 1910. Price $2.50.

Beck's bismuth paste injection method for the treatment of certain chronic suppurative lesions—notably bone and other sinuses—has already secured a permanent place in surgical therapeusis. Like many other valuable discoveries, this method—as applied therapeutically—developed accidentally, or rather incidentally, from an effort to delineate the outlines of sinuses skiagraphically. Simple in execution and, now that we are more familiar with its occasional behavior, safe, the bismuth injection often curing long-standing sinuses with amazing promptness, has deserved the generous reception accorded it and is earning equally generous praise in widening fields. Nevertheless, we agree with the author in his preface that in the present development of the subject a monograph is premature.

This book, however, is intended rather as a practical guide to the various diagnostic and therapeutic applications of bismuth paste, than as a comprehensive or critical thesis. Beck presents the technic of injection in various sets of cases, some interesting case reports, and a brief survey of the literature. His percentage of cures in rectal fistulae, and Pennington's, thus placed together, call for attention to this conservative method in these cases.

In addition to the chapter by Dr. Joseph C. Beck on bismuth paste in chronic suppurations of the nose, nasal sinuses, ear and mastoid process, there is an interesting chapter on its use in dentistry in which are summarized the experiences of Dr. Rudolph Beck and of other dentists in the management of pyorrhea alveolaris by bis-

muth injections. Here, too, the results were surprisingly good.

Induced Cell Reproduction and Cancer. The Isolation of the Chemical Causes of Normal and of Augmented, Asymetrical Human Cell-division. By HUGH CAMPBELL ROSS, M.R.C.S., L.R.C.P., Surgeon, Royal Navy (Emergency List); Director of Special Researches at the Royal Southern Hospital, Liverpool, etc. Being the results of researches carried out by the author with the assistance of JOHN WESTRAY CROPPER, M.B., M.Sc. (Liv.), M.R.C.S., L.R.C.P. Assistant to the Research Department of the Royal Southern Hospital, Liverpool. Octavo; 129 illustrations Philadelphia: P. BLAKISTON'S SON & Co., 1911.

From the observation that lymphocytes placed in a jelly film often showed what seemed to be mitotic figures, the authors were led to the study of the effect of various substances (alkaloids, tissue products, etc.), on this phenomenon and extended their observations to the consideration of growth and cell reproduction, especially in relation to healing and cancer.

The authors' method of reasoning is distinguished more by enthusiasm than by adherence to the tenets of logic, and after careful perusal of the contents of this book we are convinced that the cancer problem remains exactly as it was before. It is interesting to note that in a recent number of the *Lancet*. Certain gentlemen mentioned in the preface disclaim all responsibility for the conclusions drawn.

Hernia: Its Cause and Treatment. By R. W. MURRAY, F.R.C.S., Surgeon, David Lewis Northern Hospital, Liverpool, etc. *Second Edition*. Octavo; 184 pages; 62 illustrations. Philadelphia: P. BLAKISTON'S SON & Co., 1910.

The book begins with a very good historical review of the subject of hernia. The author makes an extended plea for the theory of Hamilton Russel, that herniae are congenital. As a corallory to this teaching, Murray advocates an operation for inguinal hernia, the essential features of which are high ligation of the sac and suture of the external oblique aponeurosis.

Medical Chaos and Crime. By NORMAN BARNESBY, M.D. London and New York: MITCHELL KENNERLY. 1910.

The perusal of this book has left us with thoughts more pertinent to the psychology of the author than to the revelations of medical practice which he divulges to the shuddering community. It is difficult to think that he has been impelled by a purely altruistic motive (as he wishes us to believe) to publish all the mistakes and sordid phases of medical practice which he has picked in his medical career. If it is, his judgment must have been rendered sorely warped by the tribulations of practice, or his experiences must have been of an unusually bitter variety.

It is hardly necessary to say that there is nothing new in the "revelations" that the author sets forth in these pages. Every physician knows that mistakes are occasionally made, that splitting fees is a common practice, that medical education is not uniformly excellent and that the conduct of hospitals is not always what it should be. The main difference between the author and the physician who holds the traditions of his vocation to heart is this: That while Barnesby shouts these things from the housetops and impatiently calls upon the entire world to help him change the present order of things, the latter hears these blights upon his profession more calmly and seeks by quiet agitation *within his profession* to accomplish the necessary reforms. The author cannot complain that the profession at large is apathetic; his own abundant quotations from medical journals furnish ample proof to the contrary. What good, however, even in his sublimest pangs of altruism, Barnesby intended to serve by calling the laity into his confidence, is beyond us to discover. His book, by furnishing a view of only the worst and occasional evils of the present state of medical practice, will only tend to arouse suspicion of physicians and aggravate the lack of confidence in medical ministrations which is altogether too prevalent. In fact, we predict that this book will serve as the main source of ammunition for the opponents of medicine for many years to come.

We trust the author does not flatter himself that it required courage to write this book. Muck-raking is an art that does not tax the sense of responsibility in the slightest. All one needs is material, and, fortunately, there is not one phase of modern life that has escaped the muck-raker's greedy eye. Politics, business, finance, religion and law have all been delved to satisfy the appetites for sensation, and now, thanks to the author, the science and art of medicine comes into its own.

We trust that every physician will read this book; not because it will make him wiser, but because he will love his profession all the more.

Three Contributions to the Sexual Theory. By PROF. SIGMUND FREUD of Vienna. Authorized translation by A. A. BRILL, Ph.B., M.D.; with introduction by JAMES J. PUTNAM, M.D., New York. Duodecimo; 96 pages. New York: THE JOURNAL OF NERVOUS AND MENTAL DISEASE PUBLISHING COMPANY, 1910. $2.00.

This monograph is a decided addition to the literature of the sexual instinct. The analysis of the Sexual Aberrations is scholarly and of great psychological value in the understanding of the basis of inverts and perverts. There is lacking, however, the logical compulsion that is essential for the acceptance of Freud's theory that the sexual instinct forms the foundation of the neuroses.

The consideration of the Infantile Sexuality carries the interpretation of natural physiological processes into absurd channels. To place thumb-sucking in the category of autoerotic acts and to closely ally it with masturbation is to place sexuality at the very basis of the food question. To state that "Children in whom this is retained are habitual kissers as adults and show a tendency to perverse kissing, or as men they have a marked desire for drinking and smoking," is as irrational as to make a similar statement for the children who perchance have been spanked during infancy. To suggest that constipation depends upon the desire of children to utilize the erogenous sensitiveness of the anal zone and that this masturbatic excitation of the anal zone is a root of the constipation of neuropaths is overzealousness to make the theory fit all sorts of conditions. Clinicians are hardly willing to accept the position that whenever the enuresis nocturna of older children does not correspond to an epileptic attack it corresponds to a pollution. While infantile sexuality is responsible for many of the obscure manifestations of childhood, infancy is not to be interpreted as consisting merely of sexuality.

The Transformation of Puberty presents some exceedingly important views on the problem of sexual excitement in its relation to sexual tension and fore-pleasure. In order to appreciate the theories of Freud it is necessary to take into account the factor of bi-sexuality and to acknowledge that libido is regularly and lawfully of a masculine nature, be it in the man or in the woman. To regard nursing and fondling by the mother of her own infant as the means of sexual excitation which later must seek other sources because of incest barriers is not "wicked," but might be regarded as the "fons et origo" of wickedness, if Freud had succeeded in establishing the truth of his statement. In short, life means only sexuality and we live to develop our sexual natures. The reviewer still continues to believe that life is not merely a question of sex, though much enlightened by the views of this excellent exponent of the methods of psychoanalysis.

Handbuch Der Kinderheilkunde, ein Buch fuer den Praktischen Arzt. Herausgegeben von PROF. DR. M. PFANNDLER und PROF. DR. A. SCHLOSSMAN. *Vol. V: Chirurgie und Orthopaedie im Kindesalter.* Von PROF. DR. FRITZ LANGE und PRIV.-DOZ. DR. HANS SPITZY. Octavo; 339 pages; 21 plates and 221 illustrations. Leipzig: F. C. W. VOGEL, 1910. Price, paper-covered, $4.00.

The encyclopedic work of Pfaundler and Schlossman, incorporating our knowledge of the diseases of children in four volumes has, we believe, come to stay. The ad-

ditional volume before us, dealing with the surgical and orthopedic diseases of childhood makes a very welcome complement to the series.

Written for the internist, the contributions of Lange and Spitzy are nevertheless complete enough to make the book one of value not only for study but for general reference. At the end of each chapter a full bibliographical list is given. The surgical conditions are clearly and precisely presented; the descriptions of diseases are very graphically presented.

To state that the work is profusely illustrated hardly gives an idea of the enormous wealth of black-and-white and colored photographs and sketches that stud the pages of the book. Indeed, the illustrations are so well chosen and so artistically prepared that one almost feels one is looking through an atlas of surgical diseases.

Abhandlungen über Salvarsan. Gesammelt und herausgegeben von PAUL EHRLICH. Octavo; 402 pages. Muenchen: J. F. LEHMANN, 1911. Price, 6 marks.

In addition to some articles concerning "606" that have not previously been published, this valuable compilation contains reprints of many essays that appeared during 1910, especially in the *Muenchener Medizinischer Wochenschrift.* To some of these later observations have been added. The last article in this interesting collection is the review by Ehrlich which recently appeared in the *Muenchener Med. Wochenschrift,* "Die Salvarsantherapie, Rückblicke und Ausblicke."

In Ehrlich's short introduction to this compilation he expresses the conclusion that the *therapia sterilisatio magna* is not the only desideratum in the treatment of lues. Even if in the majority of cases we do not effect a radical cure with a single injection we may still hope to reach this end by a few injections, eventually adding a combination treatment.

"Salvarsan" or "606." (Dioxy-Diamino-Arsenobenzol). Its Chemistry, Pharmacy and Therapeutics. By W. HARRISON MARTINDALE, Ph.D., F.C.S., and W. WYNN WESTCOTT, M.B., D.P.H., H. M.'s Coroner for North-East London. Small octavo; 77 pages. New York: PAUL B. HOEBER, 1911. Price, $1.50, net.

This is the first résumé in English dealing with "606" comprehensively. The authors have compiled notes concerning the chemistry, pharmacy and therapeutics of the drug without adding anything new or original. The book is a compilation of publications of English and foreign authors up to the end of last year. In a paragraph on "special communications" the personal experiences and views of a few English specialists are quoted. Most of them are rather lukewarm in their recommendations of the drug. Jonathan Hutchinson is skeptical of any advantages over mercury and sounds a word of warning against the intravenous method, of which he says, "if adopted on any considerable scale will be certainly followed by a number of deaths directly the result of such injections."

Books Received

The Prevention of Sexual Diseases. By VICTOR G. VECKI, M.D.; with introduction by William J. Robinson, M.D. Duodcimo; 130 pages. New York: THE CRITIC AND GUIDE COMPANY, 1910. $1.50.

A Compend of the Active Principles, with symptomatic indications for their therapeutic use. By HAROLD HAMILTON REDFIELD, A.B., M.D. Duodecimo; 100 pages. Chicago: THE CLINIC PUBLISHING CO., 1910.

(Quiz-) Compend of Gynecology. By WILLIAM HUGHES WELLS, M.D., Associate in Obstetrics in the Jefferson Medical College, Philadelphia, etc. *Fourth Edition,* revised and enlarged. Duodecimo; 290 pages; 153 illustrations. Philadelphia: P. BLAKISTON'S SON & CO., 1911. $1.00 net.

Progress in Surgery

A Résumé of Recent Literature.

Clinical Lecture on Kidney Pain. E. HURRY FENWICK. *British Medical Journal,* January 7, 1911.

The commonest structural change accompanying kidney pain is a distended renal pelvis; the commonest cause of kidney pain is a dilatation of the renal pelvis. The onset of excessive thirst with a corresponding low specific gravity of the urine is an important evidence of renal inadequacy. This condition may exist as a result of a distended pelvis. If the patient is forced to sleep on the aching side, the kidney is still movable and the pelvis is locally irritated. If the patient *must* rest on the unoffending side the aching kidney is fixed and its surface is inflamed (Corticitis.) Intermittent diuresis marks some dilatation of the renal pelvis. Fenwick calls attention to the frequency with which small aberrant vessels are found entering the kidney. These aberrant vessels may pass to either the upper or lower poles of the kidney. If to the upper pole, and the kidney is slightly movable, the dragging of the organ may cause arterial anemia of the small area of kidney which this vessel supplies, with consequent corticitis (pain) and attacks of polyuria and thirst. Aberrant vessels running to the lower pole of the kidney are found in 16 per cent. of all cases of primary pelvis dilatation, and in addition to the above symptoms, they cause dilatation of the pelvis by pressing upon the ureter. According to Fenwick, an aberrant vessel is the most common cause of kidney pain. Division of this vessel is attended by prompt alleviation of the hydronephrosis and its attendant symptoms.

[Division of an aberrant renal vessel may be followed by anemic infarction (necrosis) of the corresponding pole of the kidney.—ED.]

On Percussion and on Percussion of the Kidneys. O. LERCH, New Orleans. *Medical Record,* February 4, 1911.

By replacing the stroke with the drop in percussion, we have a method that enables us to make out with accuracy and ease the organs situated close to the body wall or deeply situated, the percussion lines corresponding sharply to the organs. We have a method superior to the usual method of percussion, in that it permits us to judge from the rebound of the hammer the change of vibrations and the percussion note at one and the same time, and especially that it eliminates largely the individual element and makes results uniform.

Further, according to the most prominent clinicians, kidney percussion has been impossible except in cases of very much enlarged kidneys, when it is for practical purposes useless. The author's methods give good results in kidney percussion under any conditions and with any patient, supplementing the diagnosis of the diseases of the kidneys and giving a ready and easy means to determine the actual size and location of the kidneys.

Glycerine as a Bladder Stimulant. (*Glyzerin als Blasenlaxans.*) OTTO FRANCK, Frankfurt. *Zentralblatt für Chirurgie,* January 14, 1911.

Baisch and Döderlein found that if 20 c.cm. of a 2 per cent. borogly-ceride solution is injected into the bladder spontaneous urination occurs, where otherwise catheterization is necessary. This method has proved valuable especially in post-operative bladder paresis. The ability to void urine spontaneously continues without the necessity of a second injection. Franck has found this method of treatment almost infallible both in women and men. In order to obviate the use of the catheter, Franck resorted to the injection of the solution directly into the urethra, and found that this simple procedure was successful. He injects 15 to 20 c.c.; about 10 c.cm.. returns, leaving 5 to 10 c.cm. within the bladder. In about twenty minutes

spontaneous urination is possible. The author has also tried this method in cases of difficulty of urination due to neurogenic or mechanical causes (prostatic hypertrophy, stricture, etc.) and found it effectual, even if the injection has to be repeated.

The Best Method of Exposing the Interior of the Bladder in Suprapubic Operations. H. KELLY, Baltimore, *Surgery, Gynecology and Obstetrics,* January, 1911.

Kelly uses a low Pfannenstiel incision—bow-shaped cut one inch above the pubes through the external oblique aponeurosis, lateral retraction of recti. The bladder is then steadied with guy entures and opened transversely (Legueu) after it has been inflated through the urethra. Very excellent exposure is then obtained. After performing the necessary operative measures the bladder is closed, the recti approximated, leaving a small median drain at the lower angle to protect the space of Retzius, and the fascia is sewn.

Ureterotubal Anastomosis. AXEL WERELIUS, Chicago. *Journal of the American Medical Association,* January 28, 1911.

Werelius finds that the operations that usually have been employed in establishing an outlet to the urinary secretion after extirpation of the kidney are either attended with a large percentage of ascending infection, as in the case of anastomosis with the intestine or vagina, or are uncomfortable to the patient. He has experimented with anastomosing the ureter with the Fallopian tubes; the genital system being closely related with the urinary apparatus and, during life, he thinks, should be the ideal alternative outlet for the urinary secretions. Two experiments on dogs are reported. The ureters were dissected up under ether anasthesia, severed close to the bladder and the distal end tied, the bladder being left intact. Both tubes were then cut off about 4 cm. from the uterus and the proximal ends tied. A thorough-and-thorough purse-string suture was then inserted in the distal end of the tubes into which the ureters were drawn and the purse-string lightly tied around the tubes and reinforced by two interrupted sutures. Both dogs are so far doing well, passing urine through the uterus and vulva. The operation seems feasible at least in the dog.

The Surgical Treatment of Epididymitis. G. G. SMITH, Boston. *Boston Medical and Surgical Journal,* February 2, 1911.

Smith advocates puncture of the epididymis in severe cases of gonorrheal epididymitis, an operation advocated by Baermann, Belfield, Mozet and Hagner. The author is well satisfied with the results he obtained in five cases. The relief of pain is almost immediate, the infiltration disappears more quickly than by any other method and, according to the testimony of other observers, the danger of permanent occlusion of the ducts is lessened.

The operation is performed under local anesthesia. An incision 6 to 10 cm. in length is made through the tunica vaginalis over the site of the junction of the epididymis and the testicle. The epididymis is punctured with a tenotome through the fibrous covering, especially at the places where the induration is greatest. If pus is found the cavity is evacuated, after a probe is inserted, by light massage, and the cavity is syringed out. The tunica is closed by a catgut suture, a cigarette drain is placed to the sutured tunica, and the skin is closed up to the drain.

Report of Work Done on the Verumontanum. LAWRENCE T. PRICE, Richmond, Va. *Virginia Medical Semi-Monthly,* February 10, 1911.

Price calls attention to congestion and irritation of the verumontanum as the cause of a certain set of symptoms, and to the necessity for direct treatment of this small body in the urethra.

The symptoms complained of are frequency of urination, pain and burning in the deep urethra, the pain sometimes being in the glans penis, down the thigh, scrotum, buttock or in the groin; frequent nocturnal emissions; spermatorrhea and premature ejaculations, the slightest provocation producing an erection and flow of seminal fluid; the form of neurosis usually referred to as sexual neurasthenia.

These patients usually have their complaint put under the head of prostatitis, but by giving the treatment for that condition the patient would invariably not be relieved. One will usually get a history that the individual had masturbated freely, or had a prolonged case of gonorrhea.

The idea that masturbation is the cause, in many instances, is very feasible, for the reason of the body being composed of erectile tissue, sexual excitement would cause a congestion which, when frequently and continuously indulged in, would become chronic. This state of chronic inflammation may also be caused by a urethritis.

Upon endoscopic examination one can see the verumontanum very readily, protruding from the floor of the urethra. In the normal subject the mucous membrane covering the verumontanum is like the rest of the urethra except slightly injected and very vascular. In the class of subjects referred to the appearance of the body is a state of inflammation, somewhat larger, protruding, bleeds very readily and is very sensitive.

The treatment carried out is either to inject into the sinus pocularis with a long-shaft syringe, a solution of 10 per cent. silver nitrate, or cauterize the surface with a 15 per cent. solution with cotton on an applicator. The pain from either of these treatments is rather disagreeable for two or three hours, and the symptoms complained of will be exaggerated for two or three days, but after the effects of the cauterization begin to clear up, so do the symptoms. The most gratifying results have been in patients classed under the head of sexual neurasthenia. In a few instances a second treatment has been necessary, though it should not be repeated under ten days or two weeks. During the second and third days a little bleeding may be noticed from the urethra. No further treatment is necessary except to pass a full-sized sound about twice to avoid any narrowing of the canal. The cauterization does not obliterate the verumontanum and destroy its supposed function, but the condition of inflammation is relieved and the size of the structure is reduced to its normal condition, or possibly slightly smaller.

A New and Easy Method of Replacing Retroflexion of the Uterus. (*Eine neue leichte Methode der Reposition des retroflektierten Uterus.*) O. GOLDBERG, Warsau. *Zentialblatt für Gynakologie,* December 17, 1910.

In cases where no adhesions, diseased adnexa or other contraindications to attempt at replacement exist, the following method will prove of advantage. With the uterus still in retroflexion, introduce a well curved Hodge pessary, as usual, its posterior bar being behind the cervix. Then introduce the index and middle finger of one hand, above (in front of) the anterior bar of the pessary (usually they are introduced behind this bar.) Turn the palmar surface of the fingers upward, separate them widely, and with the fingers deep in each lateral fornix, depress the anterior bar of the pessary firmly but slowly backward. The pessary now acts as a lever, pushing the cervix upward and backward and also lifting the fundus upward. The abdominal hand will now find the uterus either anterior or the fundus so high up that it is readily grasped and anteflexed.

Report of a Fatal Case of Quinsy in an Adult. J. J. THOMPSON, *The Laryngoscope,* December, 1910.

After an attack of acute tonsilitis, the patient, previously healthy, developed a severe peritonisillar abscess on the right side, with some difficulty in breathing. On the fifth day, there was a large swelling on both sides and the patient's condition was much worse. An incision was made on the right side and a small amount of pus evacuated, but the condition was not relieved and so an unsuccessful attempt was made to incise the left side. The breathing became more difficult and in a few hours the patient died, although those in attendance claimed that he was quieter a short time before his death. There were no

signs to indicate that he had been fighting for air. An inspection of the pharynx post mortem revealed a swelling of both tonsillar regions and a retropharyngeal swelling involving the right side of the posterior pharyngeal wall. There was no edema of the uvula or soft palate. An incision on the left side was followed by a flow of pus. The cause of death might probably have been due to suffocation due to aspiration of the pus, general sepsis, septic endocarditis or laryngeal edema, although the manner of his death did not point especially to any of them.

A Simple Method by Which an Open Safety-pin was Removed from the Bronchus Without Closing Pin. OLIVER W. TURNER. *The Laryngoscope,* December, 1910.

The patient, a young girl, aspirated a small safety pin into her left bronchus. An attempt was made to remove this by upper bronchiscopy by using the ordinary safety-pin closer. As this was unsuccessful, a tracheotomy was performed, but even through this opening the pin could not be removed, although a narrow slit was sawed out the whole length of the bronchoscopic tube on the side which was to face the left bronchus and be opposite the point of the pin when introduced. It was finally thought possible to turn the pin into the tube by first passing the tube over the half of the pin on which the clasp was located, then making traction with a hook introduced into the clasp, turning the point of the pin into the tube, the edge of which would act as a fulcrum. The hook was made of stout piano wire. The pin was readily removed in this manner.

Recent Studies of the Interrelation Between Diseases of the Nose and Accessory Sinuses and Diseases of the Orbit. (*Neuere Arbeiten neber die Beziehungen der Krankheiten der Nasen-Nebenhoehlen zu denen der Orbita.*) C. ADAM, Berlin. *Medizinische Klinik,* 1910, No. 49.

It is now a well-established fact that diseases of the orbit—both inflammatory and non-inflammatory—are but rarely primary in the orbit. Their source is usually the nose or one of its accessory cavities.

Suppuration of the frontal and anterior ethmoidal sinuses may lead to orbital cellulites, periostitis, etc.; whereas suppurative posterior ethmoiditis may result in retrobulbar neuritis, optic atrophy, disturbances in the functions of the orbital muscles. Even in the presence of long-standing dacryocystitis the accessory sinuses should be studied if orbital complications are present.

Infectious meningitis, with fatal issue, has recently been described by a number of authors as the terminal complication of pansinusitis. Such cases may present unilateral exophthalmos, retrobulbar neuritis, etc. Krauss has reported two fatal cases of ethmoidal suppuration in children—exopthalmos, edema of the lids, or orbital periostitis, followed by pyemia, being the course of events.

Nager has called attention to the not infrequent suppuration in the accessory sinuses as a complication of scarlet fever. These cases commonly lead to the formation of orbital abscesses that may spontaneously rupture in the neighborhood of the tear-sac.

Diseases of and especially tumors in the sphenoidal sinus may lead to paralysis of the eye muscles supplied by the third, fourth or sixth nerves, as well as to orbital and conjunctival hemorrhages from pressure-necrosis of bloodvessels. Such lesions may also result in retrobulbar optic neuritis or atrophy.

Report of Six Cases of Composite Odontomes. T. L. GILMER, Chicago. *Journal of the American Medical Association,* January 21, 1911.

Gilmer reports six cases of composite odontomes in the human subject which he says are of interest, first, on account of their rarity, and, second, on account of their being occasionally mistaken for malignant growths with consequent removal of large sections of the jaw which could have been avoided had a correct diagnosis been made. Such growths are rare in man and are more frequent in some of the lower animals, like the horse, but are rare also there. Composite odontomes are most frequent in the mandible, but two of those here reported were from the upper jaw. They seem to belong to the molar region. The composite odontome differs from the ordinary dentigerous cyst containing diminutive teeth, or dentary bodies, in that the latter contain no cement substance other than that which covers the root of the individual tooth when perfectly formed teeth are found, with each little tooth or denticle separate and distinct from the others; besides, there is a well-defined cyst wall or cyst fluid. In the composite odontomes there is no cyst wall or cyst fluid so far as Gilmer has been able to discover. The genesis of these bodies has not been demonstrated, but it is probably the same as that of the dentigerous cysts. The diagnosis is generally spoken of as difficult. If of the composite variety and uncovered by suppuration of the soft tissues overlying and by absorption of bone, it may be mistaken for necrosed bone, but differs in its greater hardness, resisting penetration by the sharp steel probe. The thickening of the overlying soft tissues, with the induration present with necrosed bone, is also absent. It may simulate osteoma, likewise that peculiar thickening of bone sometimes found about infected pulpless roots of the molar teeth, and also it may be confused with sarcoma or adamantoma, the latter being generally classified under the general head of odontome. The sharp steel probe, if the tumor can be reached by it, will here also aid in the diagnosis. The surest method of differentiation, however, is through the aid of the skiagraph, as it can be skiagraphed in the jaw like the roots of the teeth. The history is also of use, the slow growth, the enlargement having usually been observed for months or years, is not like that of sarcoma, and the absence of pain is different from the usual history of most malignant neoplasms.

On Recurrent Enlargement of the Salivary Glands. D. M. GREIG, Glasgow. *Edinburgh Medical Journal,* January, 1911.

Greig reports five cases, in all of which there was a history of recurrent enlargement of the salivary glands, oftentimes extending over a period of many years. In three instances, the enlargement involved the submaxillary gland; in the remaining two, the parotid. The enlargement is unilateral and the cause could not be determined. Calculus could be easily excluded. The enlargement was not accompanied by pain and always followed mastication. Mumps could be excluded by (1) the recurrence of the swelling; (2) absence of constitutional symptoms and fever and (3) the fact that the lesion was unilateral.

The author summarizes the literature of the subject and concludes as follows:

Intermittent swelling of the salivary glands is due to (*a*) Causes connected with perverted secretion: (1) siabolithiasis; (2) sialodochitis fibrinosa; (3) primary xerostomia. (*b*) Causes connected with the ducts: definite narrowing of the ostium due to (1) trauma (*e. g.,* calculus); (2) ulceration (*e. g.,* stomatitis). (*c*) Causes other than the above, apparently in connection with the glandular function but not yet pathologically defined.

A New and Successful Therapeutical Use for Old Staphylococci Bacteria. B. LE ROY, Athens, O. *New York Medical Journal,* December 31, 1910.

Le Roy found that by painting an acne lesion with old staphylococcus vaccine that the lesions healed rapidly. The comedones dried up and were easily removed by rubbing with a coarse towel. Most remarkable of all, the large open pores of the skin became constricted, leaving a perfectly appearing normal skin. At first, the application causes redness with a sharp stinging pain that lasts a few minutes. These manifestations become less marked with further applications until no reaction occurs at all. The author's experience includes 28 cases, without a failure.

Transfusion of Blood by New Method Allowing Accurate Measurement of the Amount Transfused. Preliminary Report. A. H. CURTIS and V. C. DAVID, Chicago, *Journal American Medical Association,* January 7, 1911.

Curtis and David enumerate the difficulties of the Crile

method of transfusion, the delicate technic involved, the time consumed, the impossibility of measuring the rate of flow and amount of blood transfused, the liability to accidents by movements of the donor or recipient, and of transmission of infection to the donor, and describe a method which they think largely avoids these difficulties. It requires, besides mosquito forceps and vessel clamps, one 100 c.c. Porges ground-glass syringe and one specially constructed ground-glass or metal Y cannula, which is illustrated. The studies of Freund, and Bordet and Gengou have shown that blood introduced into vessels coated with oil or petrolatum remains uncoagulated for several hours. Advantage is taken of this fact in the method described. "The syringe and cannula are sterilized by the dry method, fitted together under aspetic technic and uniformly warmed over a flame. About 25 c.c. of sterile hot petrolatum is then aspirated into the apparatus, and, after the latter is thoroughly and rapidly coated by working the piston up and down, the excess is forcibly ejected through the ends of the cannula. The median basilic or other prominent vein of the elbow region is now exposed in both donor and recipient for a distance of two to three inches. The vein of the recipient is ligated at the end toward the hand, stripped of blood toward the heart and a rubber-protected vessel-clamp applied as far as possible away from the ligature. A clamp is then applied to the distal end of the donor's vein, the vessel is stripped toward the heart and ligated proximally. Each vessel is in turn cut squarely across near its ligature, caught up at three equidistant points by mosquito forceps and irrigated with warm salt solution. A cannula end is introduced into each vein and tied in position so that one cannula is continuous with the recipient's vein and the other with the vein of the donor. The clamp on the donor's vein is released and a syringeful of blood is carefully aspirated. The clamp is then replaced and the one on the recipient's vein removed. The blood is very slowly injected into the recipient and the clamp reapplied. This procedure is then repeated until sufficient blood has been transfused." A modification of this apparatus has been used, but the technic is just the same. The details of the experiments on dogs are given, and one case in which the method was successfully used on a human subject. The danger of fat embolism from the perolatum used is considered negligible. The advantages claimed are: the definite control of the amount of blood and the rate of flow, simplicity of technic and saving of time, assurance of success in the transfer of blood, and lessened danger, of infection to the donor.

Treatment of Painful Fissures and Piles by High Frequency Currents. A. TIERLINCK, Ghent, Belgium. *The Proctologist,* December, 1910.

The form of high frequency current most generally employed is the Oudin. It may be impossible to introduce the electrode into the rectum at the first sitting because of pain and spasm of the sphincter. The number, frequency and duration of the sittings vary according to the nature of the case. The average duration is about five minutes, the number of treatments about fifteen. The treatment should not be painful. Best results are obtained in early cases.

The advantages claimed for the method are: 1. Anesthesia is not required. 2. The procedure is painless, bloodless and easy of execution. 3. The patient is not confined to bed. 4. There is no danger from complications—infection, etc. 5. Associated conditions—constipation, pruritus, etc.—are not infrequently cured.

On Recto-Romanoscopy and Severe Anemias Due to Hemorrhage from Highly Situated Varices of the Lower Bowel. (*Ueber Recto-Romanoskopie und Schwere Anämien durch blutungen aus Lochsitzenden Varicen des unteren Dickdarms.*) C. A. EWALD, Berlin. *Berliner Klinische Wochenschrift,* January 9, 1911.

Ewald reports a number of cases of severe anemia due to repeated small bleedings—and occasionally larger ones—from varicosities situated 10 to 15 cm. above the anus. These can be easily seen with the proctoscope. If these varicosities are destroyed by the Paquelin cautery the anemia is rapidly cured. Ewald has seen three cases.

Successful Direct Massage of the Heart After Apparent Death in Anesthesia. (*Erfolgreiche Herzmassage bei Narkosenscheintod.*) A. T. JURASZ, Königsberg. *Muenchener Medizinische Wochenschrift,* January 10, 1911.

While Prof. Payer was performing a resection of the pylorus for carcinoma, the patient who had withstood one hour of chloroform-ether narcosis without trouble, suddenly went into complete collapse—maximum dilatation of the pupils, cessation of respiratory and cardiac action. Prendelnburg posture, artificial respiration, oxygen and hypodermatic stimulation failed to restore her. When no signs of life were obtained for five minutes sub-diaphragmatic massage of the flabby heart was begun in combination with the other measures. After two minutes the heart grew firmer and a few cardiac and respiratory movements were noted, but when the massage was stopped complete syncope returned. The massage was resumed and the heart responded after one minute. Gradually the heart began to recover, and all the vital functions slowly returned. The patient recovered from the operation.

Sixty-four cases of heart massage are now on record. Of these 13 (23 per cent.) recovered permanently. Of the three methods, thoracic, transdiaphragmatic and subdiaphragmatic, the last has been most successful. To obtain results massage must be begun within five minutes after the signs of apparent death have taken place.

The Treatment of Three Hundred Nevi by Freezing. J. L. BUNCH, London. *British Medical Journal,* February 4, 1911.

The author's extensive experience has led him to conclude that freezing is by far the best method of eradicating nevi of any description. The resulting scar is smooth and barely visible, and as a rule only one application is necessary; for large nevi two or three may be required. The applications are of 20 to 40 seconds duration and sufficient pressure is applied to press the blood out of the superficial vessels. The surface of the skin must be held as tense as possible during the application. Good results are also obtained in cavernous and hairy nevi but usually more than one application is necessary. As a rule a vesicle forms after the treatment, which must be opened and treated aseptically.

An Easy and Painless Method of Removing Adhesive Plaster. E. J. G. BEARDSLEY, Philadelphia. *Journal of the Americal Medical Association,* January 28, 1911.

Beardsley mentions the difficulty often experienced and the pain and discomfort to the patient in the removal of adhesive plaster, especially over hairy parts. He accidentally discovered that oil of wintergreen applied directly to the plaster spread throughout the adhesive material and causes it to come away readily and painlessly. When extensive areas are to be removed the application of an ointment of adepis lanæ hydrosus, with 10 per cent. of oil of wintergreen incorporated, is even more useful than the oil alone.

Intravenous Injection of Magnesia Sulphate in Bacterimia. R. R. HUGGINS, Pittsburg. *American Journal of Obstetrics,* February, 1911.

Magnesium sulphate has been used with success in the local treatment of erysipelas and lymphangitis. The author has tested its intravenous use first in animals, later in human beings. No hyperleucocytosis is brought about, and in vitro it does not hinder bacterial growth. He has injected the salt, using 30 grains to 8 ounces of normal salt solution, into fifty human beings. The injection is performed slowly, the fluid being at a temperature of 105°-108°, and at least twenty minutes being consumed in its introduction. The cases treated were almost exclusively of puerperal infection. It apparently has a beneficial effect on the course of the disease. The data are not as yet sufficient in number to permit of definite conclusions.